

Great Lakes Basin Ecosystem

Ecosystem Description and Team Mission



Great Lakes Photo

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The Great Lakes Basin ecosystem is the largest freshwater body in the world. It holds 18 percent of the world's supply of fresh water; covers 95,000 square miles with 9,000 miles of shoreline; includes more than 5,000 tributaries; and has a drainage area of 288,000 square miles. More than 35 million people live in the Great Lakes basin and depend upon its natural resources. This bi-national basin shared between the U.S. and Canada is subject to ever-increasing national and international attention being focused on a myriad of issues, including the introduction and expansion of nonindigenous species, such as the zebra mussel, Eurasian ruffe, purple loosestrife, and others; the precarious nature of the aquatic and nearshore fish and wildlife communities and their habitats; and contamination, all of which are affecting ecosystem health.

The extensive natural resources of the basin are used for varied fish and wildlife related activities, drinking water, recreation, hydropower production (40 billion kilowatt hours annually), industrial water supply, waste disposal and commercial navigation (163 million tons bulk goods annually). For commercial vessels traveling the Great Lakes-St. Lawrence Seaway system, the St. Lawrence River and Great Lakes comprise a journey extending 2,000 nautical miles into the industrial and agricultural heartland of North America. Water related resources are an integral part of outdoor recreation in the basin which is valued at \$15 billion annually, with sport fishing activities contributing \$4 billion annually.

The Great Lakes Basin supports a variety of fish and wildlife species of concern. Fish species of special interest include lake trout, lake sturgeon, lake whitefish, walleye, Pacific salmon, landlocked Atlantic salmon, and associated forage fish species. Native mussels are being seriously impacted by the exotic zebra mussel and are in danger of extirpation. The basin provides critical breeding, feeding, and resting areas as well as migration corridors for waterfowl, colonial nesting birds, neotropical migrants, and many other species of migratory birds. Specifically, 31 species of migratory non-game birds of management concern to the U.S. Fish and Wildlife Service occur in this ecosystem.

A recent survey of biological diversity in the basin identified 130 globally rare or endangered plant and animal species or ecological communities. The bald eagle, peregrine falcon, piping plover, Kirtland's warbler, Mitchell's satyr blue butterfly, Indiana bat, gray wolf, lake sturgeon, deepwater sculpin, and pugnose shiner are a few of the many threatened, endangered, and species of special concern that inhabit the Great Lakes Basin ecosystem.

The Service's Great Lakes Basin Ecosystem Team consists of 50 field stations representing our Fisheries, Ecological Services, Refuges, and Law Enforcement programs, as well as others, from Regions 3 (Great Lakes-Big Rivers) and 5 (Northeast). These team members are addressing the ecosystem's needs holistically and collaboratively. Member stations are addressing a variety of federal trust fish and wildlife resource issues on an individual basis as well as on a broader, landscape scale. These issues include restoration of lake trout and lake sturgeon, controlling sea lamprey populations, restoring coastal wetlands, protecting and recovering endangered species and enforcing federal fish and wildlife laws.

Summary of Fiscal Year 1998 Accomplishments

In Fiscal Year 1998, the Service's Great Lakes Basin Ecosystem (GLBE) Team achieved a number of on-the-ground accomplishments that will benefit Great Lakes fish and wildlife resources. In addition, it laid groundwork that will lead to on-the-ground accomplishments in the future.

To help focus the Team's efforts on activities that involve all of the Service's programs throughout the Basin, the Team identified two issues in which each program may play a major role -- restoration of lake sturgeon and addressing expansion of double-crested cormorant populations. Acknowledging that these issues need cross-regional and cross-program coordination, the Team formed committees to address these issues:

Cormorants

Dramatic increases in populations of the double-crested cormorant during the past two decades, particularly in the Great Lakes, have resulted in several interest groups expressing concern over the perceived impacts of cormorants. This issue is of concern throughout the basin in both Regions 3 and 5 of the Service, other agencies, and resource user groups.

Recognizing the emergence of the cormorant issue as a significant issue across the Great Lakes as well as within other parts of the country, the Team established a Cormorant Committee. This committee is coordinating initiatives and activities, including research efforts and outreach, to address this issue comprehensively and proactively.

Lake Sturgeon

The lake sturgeon has been identified as a Fish Community Objective by the Lake Committees of each of the Great Lakes. The Service's efforts to restore the lake sturgeon throughout the Great Lakes are addressing restoration on several fronts, including population assessment, assessment of the genetics of various stocks, development and implementation of recovery plans, and development of fish passage technology. Given the benefit of a greater level of coordination and collaboration between Team members and Service programs, as well as among other stakeholders interested in restoration, the Team established a Lake Sturgeon Committee to identify, coordinate, and undertake needed activities with appropriate internal and external partners.

Fiscal Year 1998 Highlights

Detroit River Designated an American Heritage River

On July 28, the president announced selection of the Detroit River as one of 14 American Heritage Rivers. The American Heritage Rivers program was established in a September 11, 1997, Executive Order entitled, "Federal Support of Community Efforts Along American Heritage Rivers." Under this Executive Order, agencies within the executive branch will coordinate existing federal plans, functions, programs, and resources to preserve, protect, and restore rivers and their associated resources important to our history, culture, and natural heritage. The agencies will work with communities, and state, local and tribal governments to form partnerships that promote and complement efforts to preserve, protect, and restore designated river communities. A River Navigator will be appointed to each American Heritage River. The River Navigator, a federal employee, will serve the community for a period of up to five years as a liaison to the federal government, helping people better understand how to access existing federal resources. This designation provides an opportunity to bring focused attention to the environmental threats and opportunities facing the Detroit River, which has been identified as a Focus Area of the GLBE Team and by the Midwest Natural Resources Group.

Great Lakes Visitor Center

Shiawassee National Wildlife Refuge, along with local and county governments, industry, and non-governmental organizations, as well as with the Conservation Fund, has been spearheading an effort to establish a Great Lakes Visitor Center to be located in Bridgeport, Mich. The Center would be located off Interstate 75, where millions of people annually travel. The Center would have state-of-the-art displays and would be large enough to accommodate hundreds of visitors to educate them on the Service and Great Lakes resource issues. The owner of the site where the Center would be located recently signed the option for purchase of the property and the Conservation Fund is setting up funding arrangements. The GLBE Team endorsed establishment of the Center, which would have wide-ranging outreach and educational benefits.

Reauthorization of Great Lakes Fish and Wildlife Restoration Act

The President signed, on October 19, 1998, the reauthorization of the Great Lakes Fish and Wildlife Restoration Act of 1998. The bill authorizes \$3.5 million annually for FY 1999 through FY 2004 to support U.S. Fish and Wildlife Service efforts in the Great Lakes region and \$4.5 million annually for Fiscal Year 1999 through Fiscal Year 2004 for grants to states and tribes for cooperative fishery restoration work. Members of the GLBE Team worked actively to educate partners and others on the various aspects of the Act, which will provide funding to implement recommendations of the Great Lakes Fishery Resources Restoration Study prepared by the Service for Congress in 1995.

Great Lakes Ecosystem Outreach Display

The GLBE Team developed a bi-regional exhibit that describes all Service programs and the ecosystem approach throughout the Great Lakes. The 40-foot display was developed by a small core team from Region 3 in 1997. Since its initial development and two years at Michigan's "Outdoor-ama" event in the Detroit area, it has served as a backdrop for a press conference on reauthorization of the Great Lakes Fish and Wildlife Restoration Act at the Rayburn House Office Building; was the main attraction in the new Northern Great Lakes Visitor Center in Ashland, Wisconsin, (cooperatively managed by the USDA/Forest Service, Wisconsin Department of Natural Resources, National Park Service and a local chamber of commerce) for three months in 1998; and was displayed at SOLEC (State of the Lakes Ecosystem) conference in Buffalo, New York, in October 1998. Field stations from Regions 3 and 5 have repeatedly demonstrated their commitment to outreach by volunteering to transport, set-up and staff this major exhibit. The centerpiece of the display is a large map of the Great Lakes ecosystem cut into large puzzle pieces, each labeled with a different component of an ecosystem, e.g., people, water, etc., which demonstrates the interconnectedness of all components of an ecosystem. Live adult and juvenile sea lamprey stimulate many conversations about ecosystem influences and balance.

Great Lakes Basin Ecosystem Team highlighted at Refuge Conference

Doug Spencer (Shiawassee NWR) and Tom Busiahn (Lake Superior FRO) provided an overview of development of the Service's GLBE Team at the Service's 1998 Refuge Conference in Colorado. Doug and Tom reported that although the Team floundered for the first couple years after it was formed, it started to click in 1996. At this time, the Team began to identify areas on the ground on which to focus its cross-program collaborative efforts (Focus Areas), developed a voluntary "kitty" from which projects identified by the Team are funded, and began inviting outside agencies or organizations to Team meetings. Efforts of the Team's cormorant and lake sturgeon committees are helping field stations from all pertinent programs coordinate efforts in these resource issues.

Authorization of Whittlesey Creek NWR

The Service has recently authorized the Whittlesey Creek National Wildlife Refuge, located near Ashland, Wisconsin, on Lake Superior. The purposes of the newest of Region 3's refuges include providing habitat for anadromous trout and salmon, waterfowl, neotropical migrants, and other migratory birds, as well as reintroduction of coaster brook trout. Although no lands have yet been purchased to establish the refuge, funding from the North American Wetlands Conservation Act has been secured. The refuge, which includes coastal wetlands and is next door to a new multi-agency regional visitor center, will be managed by the Service's St. Croix Wetland Management District and Lake Superior Fishery Resources Office. This effort has spawned a larger partnership, the "Superior Coastal Wetlands Initiative," involving state, tribal, and county governments and numerous non-governmental organizations.

Goals for Fiscal Year 1999

The Great Lakes Basin Ecosystem Team has identified a number of activities it will undertake in Fiscal Year 1999. These activities include those specific actions that will be undertaken by the Lake Sturgeon and Cormorant Committees, identified below, as well as efforts to address resource needs in the Team's nine geographic focus areas: Thunder Bay and Watershed (Mich.); Saginaw Bay and Watershed (Mich.); Lower Detroit River (Mich.); Superior Coastal Wetland Initiative (Wis); Duluth-Superior Harbor Dredging Project (Minn. / Wis.); St. Lawrence Valley (N.Y.); Montezuma Wetlands Complex (N.Y.); Niagara River (N.Y.); and Salmon Trout River Watershed (Mich.)

In addition, the Team will pursue the following activities:

- Identify and pursue opportunities to collaborate with federal agency partners and other stakeholders in association with the six focus areas (Saginaw Bay, Green Bay/Fox River, St. Clair/Detroit River, Southern Lake Michigan, Southern Lake Erie, Great Lakes General) identified by the Midwest Natural Resources Group, consistent with decisions made at the November 1998 Environmental Roundtable.
- Finalize the merging of Region 3 and Region 5 on behalf of the GLBE Team, i.e., achieve greater cross-regional participation, to increase Team effectiveness and ownership in Team issues and efforts.

A recent survey identified 130 globally rare or endangered plant and animal species or ecological communities in the Great Lakes Basin .

The Team has established two new committees to focus on additional resource priorities in the Great Lakes: Great Lakes islands and migratory birds. These committees are in the process of determining what their focus should be and how to establish collaborative efforts with partners.

The GLBE Team's cross-regional and cross-programmatic Cormorant Committee will pursue a number of activities, including:

- Complete development of cormorant outreach materials and distribute them in hard copy, via e-mail, and via the Internet.
- Initiate an assessment, which will include efforts in other ecosystems, of the status of the interior population of the double-crested cormorant.

Goals for Fiscal Year 1999

Lake Sturgeon Committee

The Team's Lake Sturgeon Committee, established in Fiscal Year 1998, will undertake several activities in Fiscal Year 1999:

- Design and bring on-line a lake sturgeon Web site, which will serve as a source of current information for the Service and others working on or interested in lake sturgeon restoration throughout the Great Lakes Basin Ecosystem.
- Inventory Great Lakes tributaries that currently provide, or historically provided, lake sturgeon habitat as well as barriers located on those tributaries that prevent access to habitat, and explore opportunities to provide the inventory in a GIS format. This will help to identify and prioritize restoration and fish passage opportunities and needs.
- Develop an inter-agency database for pertinent lake sturgeon information collected by the Service and partners to assist in planning and conducting restoration efforts.
- Compile a report on the status of lake sturgeon genetics information, e.g., describe existing sturgeon samples, identify geneticists conducting work on sturgeon and their methods, identify genetics sampling needs, etc., in efforts to seek more consistency and appropriate geographic coverage of genetic analyses, which is critical to restoration efforts.
- Compile existing information on contaminant body-burden levels of lake sturgeon, which will identify data gaps and research needs related to the impacts of contaminants on sturgeon populations and on upstream fish passage opportunities.

As part of continuing efforts to present the message of "One U.S. Fish and Wildlife Service" and the ecosystem approach, the Team will present its ecosystem display at various public events including the Milwaukee Sports Show and the annual air show in Oshkosh, Wis. On a longer-term basis, the Team will develop a more-portable display that will be available to Team members for exhibition at appropriate venues. The display will highlight the Service's cross-regional message about the ecosystem approach, "everything is connected."



Great Lakes Photo

***"...highlight the
Service's ecosystem
approach message,
as well as the
'One U.S. Fish and
Wildlife Service'
message."
-Ecosystem Team Goal***

Great Lakes Basin Ecosystem FY 1998 Accomplishment Reports

■ **Service Participates in Northeastern Wisconsin Education Association Convention**

Green Bay Field Office

Biologists Cathy Carnes and Kim Kamke from the Green Bay Field Office participated in the Northeastern Wisconsin Education Association Convention at the Brown County Arena in Green Bay, Wis., on March 13, 1998. Hundreds of teachers, most from northeast Wisconsin, attended the conference. The Service's display booth featured educational materials pertinent to teaching students about wetland and wildlife values and endangered species (e.g. videos, teacher's curriculum guides, wetland trunk, etc.). Posters on endangered species and information on the educational resources available for loan to teachers were given out. Several teachers commented that they had not heard of the Green Bay Field Office until the convention, and expressed an interest in using the Service's resource materials in their classrooms to help teach their students about endangered species, wetlands, and ecology. A follow-up mailing was made to 35 teachers who requested a copy of the Green Bay Field Office's educational resource inventory; an additional 70 copies of the inventory were distributed at the convention. **3/98**

■ **Service Gathers Data for Tribal Walleye Harvest**

Ashland Fishery Resources Office

The Natural Resources Department of the Bad River Band of Lake Superior Chippewa, as the primary steward of Kakagon Slough, limit and monitor an annual tribal subsistence walleye fishery in this system. Harvest limits are periodically evaluated by the Band to maintain and protect this thriving walleye fishery, the second largest in Wisconsin waters of Lake Superior. In April, biologists from U.S. Fish and Wildlife Service - Ashland Fishery Resources Office and Bad River Natural Resources Department conducted mark and recapture surveys to estimate the number of adult walleye spawning in the Kakagon Slough. A total of 548 adult walleye were captured and marked near the mouth of Kakagon Slough prior to the spring spawning run. Fyke nets set upriver by Tribal Fish Hatchery staff for egg collection were used for the recapture effort. A total of 2,056 walleye were captured and checked for marks. Information from these surveys was used to set the 1998 tribal subsistence harvest limit and will

provide additional information on the structure of the Kakagon Slough walleye stock. (**4/98**)

■ **Words for the Birds - An Evening of Nature Poetry**

Shiawassee National Wildlife Refuge

This First Wednesday Discovery Series program was held in conjunction with the Theodore Roethke Festival. Fifty-three people participated in this program. The evening was kicked off with the "Roethke's Bird Scramble" where players had to match poetry excerpts with the birds they mention. Nine featured readers, including Park Ranger Marc Beaudin, read selections from Roethke and some of their own work. **5/98**

■ **Menominee Tribal Police Trained by Service Special Agent**

Madison Law Enforcement Office

Special Agent Ed Spoon conducted a handgun re-qualification and training session for 16 commissioned police officers of the Menominee Tribal Police Department at the police range near Keshena, Wis. The police department requested Special Agent Spoon's assistance after they heard about previous firearms training Spoon conducted with Menominee Tribal Conservation Wardens. The Chief of Police, Karen Neconish-Gardner, personally thanked Spoon for his help. Special Agent Spoon's willingness to assist allowed both the Tribal Police Department and Tribal Conservation Department to satisfy mandates for semi-annual firearms qualification. **5/98**

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***-Service-sponsored celebration at
Potter Park Zoo, Lansing, Mich.***

■ **International Migratory Bird Day Celebration at Potter Park Zoo, Lansing, Michigan**

Michigan Private Lands Office

On Saturday, May 9, 1998, more than 50 volunteers from nine organizations and 12 local merchants, gathered with the U.S. Fish and Wildlife Service to host an International Migratory Bird Day celebration at Potter Park Zoo in Lansing, Mich.. More than 1,900 visitors, mostly families with young children, participated in a variety of hands-on activities directed at increasing awareness, understanding, and appreciation of our migratory birds. Activities were geared at identifying birds, and at understanding bird adaptations, habitat needs and threats to birds. **(5/98)**

■ **International Migratory Bird Day Celebrated at Green Point Learning Center**
Shiawassee National Wildlife Refuge

Green Point Environmental Learning Center hosted its fourth annual International Migratory Bird Day Celebration on Saturday, May 9, 1998. The Mayor of Saginaw proclaimed the day as "International Migratory Bird Day" for the City. Seventy-five people attended the day's activities which featured Richard Mallery, author of "Dick E. Bird's Bird Feeding 101." Mallery provided a humorous look at birds, bird feeding, and squirrels. Other activities during the day included a migratory bird workshop for kids, a bird banding demonstration, the first ever Bird Trivia Contest, Bird Eye-Q, a guided bird walk, and bird feeder building. Visitors had a chance to enjoy a free sample of shade grown coffee and other refreshments. Eight volunteers donated 25.5 hours to help make the day possible. **5/98**

■ **Refuge Shares 'Secrets of Campfire Cooking'**
Shiawassee National Wildlife Refuge

Fourteen people attended the First Wednesday Discovery Series program, "Secrets of Campfire Cooking," June 3, 1998. Park Ranger Marc Beaudin showed the group how to build and light different kinds of cooking fires, construct implements to hold pans over the coals, and prepare utensil-less meals. **6/98**

■ **Michigan Fifth-Graders Learn About Fish Sampling**

Alpena Fishery Resource Office

Service Fishery Biologist Tracy Hill and Biological Science Aide Jen Abdella gave an educational presentation to Mike Baarlaer's fifth grade class at Camp Chickagami on June 9, 1998. Camp Chickagami is situated on Lake Esau in Presque Isle County, Michigan. Biologist Hill presented fisheries sampling gear, discussed fish morphology and physiology, and explained careers in fisheries. Aide Abdella presented aquatic invertebrates, discussing morphology, physiology, and the importance of insects to aquatic and terrestrial food webs. Finally, the students seined for fish, catching rainbow darters, log perch, and emerald shiners. Approximately 15 students participated in the event. **6/98**

■ **Wilderness Survival Part of Refuge's Summer Discovery Camp for Kids**

Shiawassee National Wildlife Refuge

The annual Summer Discovery Camp for children was held Saturday, June 20, 1998. Thirty-three children, ages five to 12 participated in the various activities which included learning about wildlife signs and tracks, wilderness survival and pond life. They also took part in the first-ever Bird Olympics. Three volunteers donated 17.5 hours to help out during the day. **6/98**

■ **Alpena Hosts Lake Sturgeon Internal Sexing Workshop**

Alpena Fishery Resource Office

The Alpena Fishery Resource Office and the Ontario Ministry of Natural Resources - Lake Huron Management Unit, hosted a lake sturgeon internal sexing and state of maturity workshop June 23, 1998. The workshop was instructed by Senior Fishery Biologist Ron Bruch from the Wisconsin Department of Natural Resources. Workshop attendees learned to determine sex and state of maturity of lake sturgeon after examination of the gonad. Thirty workshop participants then tested the newly learned techniques on 50 lake sturgeon. The workshop offered most participants their first chance to handle live lake sturgeon. **6/98**

■ **Wisconsin Prairie Restoration Creates New Karner Blue Butterfly Site**

Green Bay Field Office

While conducting a survey of a recently restored prairie/barrens habitat complex, a Service biologist discovered a population of endangered Karner blue butterflies occupying the site. The habitat complex, located in central Wisconsin, was restored as part of the Service's Partners for Fish and Wildlife Program. Working with the property owner, biologists from the Green Bay Field Office developed and implemented a habitat restoration plan with the goal of providing suitable habitat for the Karner blue butterfly. This was accomplished by removing trees and planting a specific mixture of prairie grasses and forbs to retired agricultural land. One of the forbs planted – wild lupine – is the host plant on which the Karner blue butterfly larvae relies to complete its life cycle. At the time the restoration was accomplished, the nearest known population of Karner blues was over a mile away. With a number of potential barriers between the two areas, it was unknown how long it would take for Karners to occupy the site, or if they would at all. The colonization of this site by Karner blues, even though it is only in its third growing season, is an encouraging sign for the potential success of future private land restoration projects to contribute to the conservation and recovery of the Karner blue butterfly. **6/98**

■ **Green Point Center Hosts Watching Wildlife Workshop**

Shiawassee National Wildlife Refuge

On Saturday, July 11, 1998, the Green Point Environmental Learning Center hosted a Watching Wildlife Workshop. Twenty-one people participated in various activities to help hone their wildlife watching skills. The group was very enthusiastic and got to see several species of birds while practicing their newly learned skills on a hike through the woods. **7/98**

■ **Alpena Hosts Fishery Workshop For Elementary Students**

Alpena Fishery Resource Office

Alpena Fishery Resource Office staff members presented a fisheries workshop to 50 elementary school children participating in the Youth Volunteer Corps' "Summer in Science" day camp, July 15, 1998. The children visited five stations, each offering some hands-on activity. Stations incorporated fish identification, fish senses (touch, smell, sight,) aquatic insects (what fish eat,) gear used to capture fish and exotic fish to the Great

Lakes. Live fish and sea lamprey donated by the Hammond Bay Biological Station were displayed. **7/98**

■ **U.S. Fish and Wildlife Service Participates in JAL "Happi Flight"**

Chicago Inspection Program

Members of the Chicago Law Enforcement Field Office participated in a unique charity travel and education event sponsored by Japan Airlines (JAL) The event, called "Happi Flight," put chronically ill and under privileged children from eight Chicago-area organizations aboard a JAL Boeing 747 for an aerial tour of Niagara Falls July 27, 1998. Members of the Chicago Field Office first showed an in - flight video on CITES and later toured the aircraft with examples of seized wildlife for the children to handle. Approximately 302 people - mostly children - were on board the aircraft. **7/98**

■ **Lake and Coaster Brook Trout Receive Antibiotic Injections at Iron River Hatchery**

LaCrosse Fish Health Center

Staffs from several federal hatcheries and one tribal fish hatchery came together August 25-26, 1998 to assist the LaCrosse Fish Health Center administer an antibiotic to thousands of lake trout and coaster brook trout at the Iron River National Fish Hatchery. Bacteria that causes a kidney disease in salmonid was discovered by biologists during a recent routine fish health inspection at the Iron River facility. Erythromycin phosphate, an antibiotic, was injected into the fish to reduce or eliminate the bacterial organism. Partners in the effort included the Iron River, Pendills Creek, and Jordan River National Fish Hatcheries; and the Red Cliff Tribal Fish Hatchery. **8/98**

■ **Service Reaches Thousands at Oshkosh Air Show Outreach Event**

St Paul Law Enforcement Office

The missions of the U.S. Fish and Wildlife Service's law enforcement, wildlife refuges and other programs were displayed to an estimated 100,000 people during the recent Experimental Aircraft Association's annual Air show in Oshkosh, Wisc. More than 860,000 aviation enthusiasts attended the event, held July 31 to August 4, 1998. More than 100,000 toured the Federal Pavilion, site of the Service exhibits which featured the Region's Partenavia observer airplane, one of only two aircraft of its type in the United States. Also featured were a wildlife refuges display, and eight mounted bald eagles,

furnished by Law Enforcement. More than 35 Service volunteers staffed information booths during the massive outreach event. The aircraft, displays and eagles generated enormous interest in the Service and its mission, while providing an excellent vehicle for public outreach. Other partners at the Federal Pavilion included 15 U.S. and Canadian government agencies. **8/98**

■ **U.S. Fish and Wildlife Service Negotiates NRDA Settlement With USX Corporation**

Bloomington Field Office

The U.S. Fish and Wildlife Service's Bloomington Field Office, together with state trustees, negotiated a Natural Resource Damage Assessment settlement as part of the clean-up settlement with USX for the eastern five miles of the Grand Calumet River near Gary, Indiana. As the Environmental Protection Agency negotiated with USX for cleanup of the river, the Service's Bloomington Field Office worked to expand the proposed dredging project to include a more complete dredging of contaminated sediment from the river bed. Also negotiated were restoration of riparian and in-stream habitats, acquisition of land for Indiana Dunes National Lakeshore and Indiana Department of Natural Resources, and \$1 million for post-dredging monitoring. Bloomington Field Office's participation in the NRDA settlement added about \$21 million to the value of the dredging project. The Bloomington Field Office acts as NRDA co-trustee with the State of Indiana on investigation and clean-up of the Grand Calumet River. The USX settlement and NRDA settlement were announced at a joint press conference in Gary, Ind., Aug. 6, 1998, by the Environmental Protection Agency, Departments of Justice and Interior and the State of Indiana. **8/98**

■ **Rosemont Chamber of Commerce Tours Service Offices at O'Hare Airport**

Chicago Inspection Program

The Rosemont, Illinois, Chamber of Commerce was invited to a brunch and tour of O'Hare International Airport operations hosted by the City of Chicago's Department of Aviation. The U.S. Fish and Wildlife Service, along with U.S. Customs and the U.S. Department of Agriculture, was asked to make a presentation on our work at O'Hare International Airport. As always, there was great interest in the Service display and presentation. **8/98**

■ **Chameleon Seized at O'Hare Airport Repatriated to Israel**

Chicago Inspection Program

A live chameleon exported illegally from Israel to the United States in June was repatriated to Israel and released back to the wild. On June 2, 1998, U.S. Customs officials at Chicago's O'Hare Airport discovered a live chameleon, (*Chamaeleo chamaeleon*), inside a shoe box in a passenger's luggage. U.S. Fish and Wildlife inspectors seized the chameleon, nicknamed "Louie." Upon learning of the seizure in the U.S., the Israeli government requested the Service return the chameleon to their country for release into the wild. The chameleon is not endangered, but is a CITES Appendix II species. Service Law Enforcement worked with Friends of Animals to fund Louie's return to Israel. The importer supplied the location in Israel where the chameleon was collected. Louie returned to Israel August 12, 1998, via TWA Airlines, where he was to be returned to the wild by Israeli Nature Reserve officials. **8/98**

■ **Service Training Helps Michigan Obtain \$13 Million For Sport Fish, Wildlife Restorations**

Federal Aid

The U.S. Fish and Wildlife Service's Office of Federal Aid recently conducted a federal grant writing and administration training workshop for members of the Michigan Department of Natural Resources. Twelve members from Michigan Department of Natural Resources's Divisions of Wildlife, Fisheries, Law Enforcement, and Parks and Recreation attended the three-day training, hosted by the Service's East Lansing Field Office. The training was tailored specifically to Michigan's needs and included complete student

The aircraft, displays and eagles generated enormous interest in the Service, and its mission...

***-Oshkosh Airshow
Oshkosh, Wis.***

manuals and visual aids as well as instruction in the preparation of grant documents to obtain Federal Aid in Sport Fish and Wildlife Restoration Grants totaling nearly \$13 million. The training also enhanced interaction, trust and cooperation among the various divisions of the Michigan Department of Natural Resources and between the DNR and the U.S. Fish and Wildlife Service. During recent years, both the Michigan DNR and Region 3 Federal Aid office have undergone restructuring and downsizing, including major changes in personnel. The changes created some misunderstandings in both organizations about the grants process. The training workshop resolved those misunderstandings while improving the working relationship between the Service and Michigan DNR. **8/98**

■ **Michigan Refuge Hosts 'EarthWalk Workshop'**

Shiawassee National Wildlife Refuge

On Saturday, August 15, seven people attended the "EarthWalk Workshop" offered at the Green Point Environmental Learning Center. This course was for adults only. Participants practiced various wildlife observation skills, building survival shelters, building fires, and identifying and preparing wild edible plants. **8/98**

■ **Service Surveys Breeding Birds on Tribal Land in Northwest Minnesota**

Ashland Fishery Resource Office

The Red Lake Farm and adjacent Kiwosay Wildlife Sanctuary in northwest Minnesota are owned by the Red Lake Band of Chippewa Indians and are managed by the Tribal Department of Natural Resources to promote wildlife habitat values. Phase I objectives of the recent Red Lake Farm Habitat Restoration Project included the inventory of wildlife populations in the farm for a baseline to guide future management projects. The U. S. Fish and Wildlife Service, Ashland Fishery Resources Office, assisted Red Lake Farm by conducting breeding bird surveys in the Farm and the Kiwosay Wildlife Sanctuary. The objectives of the study were to provide the following information: A list of bird species found in each target habitat type; crude relative abundance and density data for each species in each habitat type; and total densities for each species in each habitat type. The first surveys were conducted in June 1997 and were reported for the first time. The 1997 surveys were not conducted according to Region 3 protocol, and were not directly comparable to the

1998 results, which were reported in detail in this report. **8/98**

■ **Service Contaminant Expertise Brought to State Regulators**

East Lansing Field Office

Dr. Lisa Williams of the U.S. Fish and Wildlife Service's East Lansing Field Office taught two sessions of "Behavior of PCBs, PCDDs, and PCDDs with Special Emphasis on the Great Lakes" to staff members of Surface Water Quality Division, Michigan Department of Environmental Quality during their in-service training August 25, 1998. Approximately 80 Division staff members were educated on the chemistry, fates and effects of PCBs and dioxin. The staff members are responsible for the quality of the surface waters of Michigan, including all Michigan tributaries to the Great Lakes. As a result of the training, Surface Water Quality Division staff from around the state will understand the fate of PCBs and related compounds in wastewater streams and treatment plants and the significance of even undetectable releases of these compounds to fish, wildlife and humans. This will enable them do better job of reviewing National Pollutant Discharge Elimination System (NPDES) permits and industrial pretreatment plans. **8/98**

■ **Breeding Bird Survey Conducted Near Proposed National Wildlife Refuge Site**

Ashland Fishery Resource Office

The outlet of Whittlesey Creek on Wisconsin's Bayfield Peninsula, is encompassed by an area proposed for addition to the national wildlife refuge system. The proposed refuge will be designated primarily, but not exclusively, for the enhancement and protection of habitats for the Lake Superior coaster brook trout, (*Salvelinus fontinalis*.) With responsibilities of the U. S. Fish and Wildlife Service for the management of migratory birds and conserving and restoring wetlands, coupled with the heightened awareness of neotropical non-game land birds, there is also a need for breeding bird information in and around the proposed refuge for a baseline and monitoring to assist in management decisions for the area. Recently, ecosystem "indicator" status was conferred regionally by the Lake Superior Work Group of the U.S. - Canada Binational Program to neotropical bird abundance and diversity because of the link between the health of forest bird communities with habitat conditions. The Whittlesey Creek study area within the Lake Superior basin, therefore, was a timely initiative for the program goals. The author presented

information on habitat and occurrence of birds in June 1998, recorded from point counts, and briefly compared some data with the nearby Apostle Islands and Bad River. 9/98

■ **Navigation Agreement Protects St. Marys River, Michigan's Coastal Wetlands**

East Lansing Field Office

The U.S. Fish and Wildlife Service recently participated in a multi-agency winter navigation agreement that will protect the St. Marys River and more than 13,300 acres of Michigan's coastal wetlands. The Memorandum of Agreement fixes opening and closing dates for the Soo Locks at Sault Ste. Marie, Mich., vessel speed limits and other monitoring responsibilities relating to commercial shipping traffic on the St. Marys river. As part of the 10-year agreement, the Service's East Lansing Field Office negotiated provisions to protect more than 75 miles of riverine habitat and wetlands from the effects of early navigation season. The parties of the agreement include the U.S. Army Corps of Engineers, the U.S. Coast Guard and the Michigan Departments of Natural Resources and Environmental Quality. 9/98

■ **'The World of Bats' Program Held at Green Point Learning Center**

Shiawassee National Wildlife Refuge

On Wednesday, September 2, 1998, the Green Point Environmental Learning Center held its monthly First Wednesday Discovery Series program. This month's topic was "The World of Bats." The Organization for Bat Conservation presented a lively and informative discussion on bats from around the world. The highlight of the evening was when live mega and micro bats were brought out for the audience to see up close. Thirty-three people attended the program. 9/98

■ **Shiawassee National Wildlife Refuge Hosts Open House - Auto Tour**

Shiawassee National Wildlife Refuge

Approximately 700 people visited the Shiawassee National Wildlife Refuge during a two-day Open House September 12-13, 1998. The Open House gives the public the chance to explore the Refuge beyond the "Closed Area" signs during a time of the year which is the least disturbing to wildlife. A seven-mile long self-guided auto tour through the heart of the Refuge was also offered Sept. 12. Refuge volunteers provided a great deal of assistance with traffic flow and information. Refuge staff were also on hand to provide

orientation. A total of 194 vehicles carrying 447 passengers took advantage of the chance to drive through the Refuge. 9/98

■ **Northwest Ohio Mitigation Bank to Restore Diverse Habitat Types**

Reynoldsburg Field Office

The Ohio Wetlands Foundation is developing plans for a wetland mitigation bank on a 160-acre site in Sandusky County, Ohio. Muddy Creek Bay (Sandusky Bay) on Lake Erie is located one mile to the north. The site contains portions of a channelized stream with cutoff oxbows. The bank will serve Lucas, Ottawa, Sandusky and Wood counties in Ohio. Habitat types to be restored or enhanced include emergent wetlands with open water, wet prairie and riparian hardwoods. After completion, the site will be donated to the Ohio Division of Wildlife. 9/98

■ **Service Comments on Proposed Middle Bass Island, Marina and Condo Development**

Reynoldsburg Field Office

RealAmerica, Inc., proposes to construct a 132-slip marina and townhouse complex on the east side of Middle Bass Island in Lake Erie, Ottawa County, Ohio. The Permit Application, Buffalo CE #97-479-0004(1), dated November 26, 1997, is opposed by many local residents. The Reynoldsburg Field Office recommended denial with a threat to elevate, per our Memorandum of Agreement with the U.S. Army Corps of Engineers. Our denial is based on unacceptable impacts on aquatic resources and the loss of public use of eight acres of Lake Erie waters. The applicant is currently conducting aquatic resource studies in the project area. 9/98

■ **Service Participates in Federal Energy Regulatory Committee Public Meeting**

Green Bay Field Office

The Green Bay Field Office participated in the Federal Energy Regulatory Commission's (FERC) public outreach meeting held in Wausau, Wisconsin, on September 17, 1998. The FERC Staff named which hydroelectric projects will be up for re-licensing in Wisconsin between years 2000 and 2010. The Commission also explained its re-licensing procedures, both traditional or collaborative, that are available for use by applicants. Jim Fossum of the Green Bay Field Office participated on a panel along with representatives from the Wisconsin Electric Power Company, Wisconsin Department of

Natural Resources, and River Alliance of Wisconsin. The group explained the collaborative approach to re-licensing as used in the Wilderness Shores Settlement Agreement signed in 1997. The panel explained that a consensus/ collaborative approach to re-licensing was used and the partners negotiated a settlement for eight hydro projects located in the Menominee River Basin. The Settlement balanced environmental and power objectives and achieved many positive gains for the environment over the 40-year term of the agreement. The audience expressed great interest in this re-licensing approach during the meeting. **9/98**

■ **Service, Lake Huron Fishers Partner For Sturgeon Genetic Sampling Effort**

Alpena Fishery Resource Office

Fishery Biologist Tracy Hill and Technician Scott Koproski met with several Michigan state-licensed commercial fishers assisting with the lake sturgeon work on Lake Huron on September 22, 1998. The purpose for the visit was to provide the fishers with equipment for collecting genetic samples from lake sturgeon which they encounter as by-catch in their trap net fishery. Genetic samples collected as a result of this work will be the first samples collected from Saginaw Bay lake sturgeon. **9/98**

■ **Alpena Staff Tour Sturgeon Spawning Areas on the Detroit River**

Alpena Fishery Resource Office

Staff from the Alpena Fisheries Resource Office toured the Detroit River September 22, 1998, with Detroit River musky fisherman Jim Johnson. The river tour gave the Fishery Resource Office staff first hand knowledge of lake sturgeon spawning sites that will be sampled during the 1999 field season. In addition to the historically known spawning sites, other potential spawning sites were identified as a result of the tour. Jim Johnson has fished the Detroit River for 40 years and is proving to be a critical contact for building partnerships for this Detroit River lake sturgeon project. **9/98**

■ **Alpena Fishery Resource Office to Produce Great Lakes Lake Sturgeon Video**

Alpena Fishery Resource Office

The Alpena Fishery Resource Office is partnering with the Earthwave Society and other state and international resources agencies to produce a public outreach video about lake sturgeon of the Great Lakes. Production of the 20-minute video is slated to begin in April 1999 and be completed by

September 1999. The video will be distributed to state and federal agencies, educational institutions, public schools and libraries, and conservation groups. The video should help to foster public support and participation in lake sturgeon restoration efforts. **9/98**

■ **Random Detroit Port Inspections Reveal Fish Import Violations**

Detroit Metro Airport Law Enforcement Office

During the weekend of September 25, 1998, the Wildlife Inspector and Special Agent from the Ann Arbor Law Enforcement office conducted approximately 12 hours of random inspections of persons declaring wildlife importations. Most of the importations were sport-caught fish. Ontario Provincial law states that fish must be identifiable by leaving one square inch of skin on each fillet, and that the number of fish must be countable. Licensing and possession regulations were also enforced. Out of the approximate 50 imports of sport caught fish imported during that 12 hour time frame, five violations were detected. Four of the violations were for unidentifiable fish, and one violation was for possession of an over limit of fish. It is estimated that during the peak fishing season in Ontario, over 100 fishermen import their sport caught fish daily at Michigan border ports which includes Detroit, Port Huron, and Sault Ste. Marie. **9/98**

■ **Spring Raptor Migration Studied on Ottawa National Wildlife Refuge**

Ottawa National Wildlife Refuge

Black Swamp Bird Observatory conducted research on Ottawa National Wildlife Refuge Complex and neighboring wetlands. Raptors were counted from standardized points to assess migration timing and the effects of land topography and weather are assessed. Data is used to provide public information on the importance of Lake Erie marshes to this high profile bird group. **9/98**

■ **Refuge Monitors Migrational Movements and Habitat Use of Passerines**

Ottawa National Wildlife Refuge

Black Swamp Bird Observatory monitored neotropical bird migration throughout Ottawa National Wildlife Refuge. Birds were captured using mist nets then banded, measured and assessed for their energetic condition. Migration timing and reproductive success are also monitored and point counts were used to compliment migration information. Education programs were also provided to visitors. **9/98**

■ **Prairie Restorations Enhance More Than 200 Acres of Nesting Habitat**

Ottawa National Wildlife Refuge

Native prairie restoration projects at 16 sites in three Ohio counties have enhanced waterfowl nesting habitat on more than 225 acres. In Ottawa County, 12 sites and 119 acres of native were restored. In Sandusky County, three sites and 96.4 acres of native prairie were restored. In Erie County, the project restored one site and 10 acres of native prairie. The restoration projects will improve waterfowl nesting habitat and provide enhanced winter cover for game and non-game birds. **9/98**

■ **Western Reserve Prairie Restoration**

Ottawa National Wildlife Refuge

This project will restore 60 acres of native prairie in 15 townships and three counties in Ohio to improve habitat for game, and non-game birds. Long term agreements will be used to protect restored habitats. All seed has been purchased. The additional 20 acres will be completed in 1999. **9/98**

■ **Migrating Shorebirds, Habitat Monitored at Lake Erie Marsh Region**

Ottawa National Wildlife Refuge

This project monitored migrating shorebirds for timing and speciation in the Lake Erie Marsh Region. It assessed shorebird habitat use and land management techniques to improve stopover habitat for this group of avian species on the Ottawa National Wildlife Refuge. All field work has been completed for the season and final reports are due December 31, 1998. Data will be used to assist in the documentation of registry of the marsh region as a shorebird reserve of international importance. **9/98**

■ **Small Wood Lots Surveyed for Breeding Birds**

Ottawa National Wildlife Refuge

Black Swamp Bird Observatory conducted research on Ottawa National Wildlife Refuge Complex and neighboring private lands. Small wood lots with and without human habitation were monitored using point counts to assess breeding birds and their relation to human activity. Point counts were conducted three times during June on all sites. Data will be analyzed to assess woodland type, size and human habitation of species diversity and abundance. **9/98**

■ **20 Acres of Native Prairie Restored at Ottawa National Wildlife Refuge**

Ottawa National Wildlife Refuge

This project restored 20 acres of native prairie for waterfowl nesting habitat and winter cover for both game, and non- game birds. The area had previously been used as crop lands, corn and soybeans. Pheasants Forever contributed labor and equipment. **9/98**

■ **Sea Lampreys Destroyed in Great Lakes' Tributaries, Lake Trout Saved**

Ludington Biological Station

The U.S. Fish and Wildlife Service conducts a sea lamprey control program under contract with the Great Lakes Fishery Commission. During September 1998, seven tributaries to the Great Lakes -- four on Lake Superior, three on Lake Huron -- were treated with lampricide, destroying about 598,000 larval sea lampreys. Included in this total are about 31,700 larvae that would have transformed into the parasitic phase and entered the Great Lakes this year. Each parasitic phase sea lamprey is capable of killing upwards of 40 pounds of fish during its year long parasitic phase. The successful control program continues to ensure sport fish rehabilitation in the Great Lakes and protect a fishery valued at over \$4.0 billion. Partners in the effort include the Marquette and Ludington Biological Stations, Bad River Band of Chippewa, and the Great Lakes Fishery Commission. **9/98**

■ **Ashland Fishery Resource Office Assumes Eurasian Ruffe Population Study**

Ashland Fishery Resource Office

The Eurasian Ruffe Population Investigation Study began in 1995 as a long term study to monitor the abundance of ruffe and native fishes in Lake Superior tributaries where ruffe have been discovered or likely to be discovered. The objective is to assess any changes in these fish communities as the potential result of the presence of ruffe. From 1995 through 1997, Ashland Fishery Resource Office contracted with the Lake Superior Biological Station, Great Lakes Science Center, which is now part of U.S. Geological Survey, to perform and report on this study. The results of their effort will serve as a basis to document any future changes in sizes and structures of fish populations in these tributaries, as it is too early in the study to reveal any noticeable trends. In 1998, Ashland Fishery Resource Office assumed the performance of this study, but due to budget and time limitations, the number of tributaries included in this study was

reduced from 10 to four. Three of the four tributaries currently in the study have been occupied by ruffe since the onset of the study, but ruffe were first detected in the Ontonagon River, Mich., in 1994. This river currently represents the eastern boundary of the ruffe range on the south shore of Lake Superior. The rivers are sampled with seines and trawls once each during spring, summer, and fall. The fall sampling was just accomplished during the week of Sept. 28, 1998, completing the study for 1998. **9/98**

■ **Computer Models Created for Lake Erie Lake-Wide Area Management Plan (LAMP)**

Reynoldsburg Field Office

Members of the Reynoldsburg Field Office met with members of the Ecosystem Objectives Subcommittee in Windsor, Ontario October 1-3, 1997. Most of the meeting was spent working on input to the computer model that was selected. The Lake Erie Lake-wide Area Management Plan will help guide governmental agencies in selecting a desired future condition of Lake Erie and making decisions to reach the desired goal in the future. **10/97**

■ **September 98 Larval Sea Lamprey Assessment in the Great Lakes**

Ludington Biological Station

The U.S. Fish and Wildlife Service conducts a sea lamprey control program under contract with the Great Lakes Fishery Commission. During September 1998, 10 Lake Superior, 15 Lake Michigan, four Lake Huron and two Lake Erie tributaries were assessed by Service personnel. Surveys were conducted to prepare streams for lampricide application in 1999, evaluate the status of larval populations in streams that may be ranked for lampricide application in 1999 and 2000, and search for new infestations and evaluate treatment effectiveness. The successful sea lamprey control program continues to ensure sport fish rehabilitation in the Great Lakes and protect a fishery valued at over \$4.0 billion. **9/98**

■ **Fishery Inventory Assessment Survey Conducted at Ottawa Refuge**

Ottawa National Wildlife Refuge

A fishery inventory survey was conducted on Ottawa National Wildlife Refuge during the summer months of 1998. All applicable pools and moist soil units were sampled using trap nets and hoop nets. Seining was done during night and daylight hours. This survey was done to quantify fish species on the refuge which had not been

identified before. A sample of species commonly found included: white crappie, black crappie, carp, white bass, white perch, sunfish, brown and black bullhead, and bowfin. Other species which were found but not as commonly were yellow perch, largemouth bass and steelhead. **9/98**

■ **Special Agents Participate in Northern Indiana Waterfowl Enforcement Task Force**

Indianapolis Law Enforcement Office

On November 22 - 23, 1997, Service special agents and Indiana conservation officers conducted a joint waterfowl enforcement task force in northwest Indiana. Eleven hunting clubs and 91 hunters were contacted. Few violations were observed, mainly due to hunter compliance and few birds present in the area. The task force's efforts were successful also because of the positive publicity received. **11/97**

■ **Impact of Eurasian Ruffe Presented to Numerous Audiences**

Ashland Fishery Resource Office

Conclusions drawn from the International Ruffe Symposium held in Ann Arbor, Mich., during March, 1997, stated that alleged harm to native fish communities by Eurasian ruffe was largely unproven and inconclusive. However, research presented by the University of Minnesota in the poster session described some proven impacts that were not addressed in the verbal session. The Service's Ashland Fishery Resources Office summarized these impacts along with comments gathered from European fishery biologists experienced with recent ruffe introductions. This information was part of a presentation made to the 59th Midwest Fish and Wildlife Conference on December 9, 1997; the 2nd Annual Chequamegon Bay Area Natural Resources Conference on March 3, 1998; the Wisconsin Department of Natural Resources Fisheries Management and Habitat Protection Statewide Training Conference on March 11, 1998; to U.S. Fish and Wildlife Service Region 3 Director, Bill Hartwig and other Region 3 staff members on April 29, 1998; and a group of high school honor students working for the Cable Natural History Museum of Cable, Wis., July 30, 1998. The presentation contained the most recent information and research from the University of Minnesota and observations from European biologists relating to potential and proven impacts of Eurasian ruffe. **12/97**

■ **Eurasion Ruffe Surveyors Complete Seventh Season**

Ashland Fishery Resource Office

Ashland Fishery Resource Office began surveillance of Eurasian ruffe in 1991, and has coordinated the surveillance efforts in the Great Lakes as well as assuming the senior authorship in the annual report. Presently, Ashland Fishery Resource Office is joined in the surveillance effort and shares report authorship with the Alpena and Lower Great Lakes Fishery Resource Offices, and the Ontario Ministry of Natural Resources, Lake Superior Management Unit. For the fourth consecutive year, no range expansion by ruffe was detected in the Great Lakes during calendar year 1997, but increases in abundance were observed in some locations within the ruffe range. Total reported effort in CY1997, both dedicated and incidental, consisted of nearly 40 hours of bottom trawling, 573 trap nights, 55 nights of gill netting, and 4 hours of electro shocking. This effort resulted in a total catch of 604 ruffe. The current range of ruffe in Lake Superior extends from Duluth-Superior harbor (origin) to Thunder Bay, Ontario on the north shore; and Ontonagon, Mich., on the south shore. In Lake Huron, ruffe have only been found near Alpena, Mich. No ruffe have been found in Lake Erie or Lake Ontario. Other contributors to the surveillance report include the Marquette Biological Station, the Great Lakes Indian Fish and Wildlife Commission, U.S. Geological Survey-Biological Research Division Lake Superior Biological Station, the Red Cliff Band of Lake Superior Chippewa Fisheries Department, the Chippewa/Ottawa Treaty Fish Management Authority, the Minnesota Department of Natural Resources, and many sport anglers. **3/98**

■ **Trapping Programs Reduce Muskrat Density**

Ottawa National Wildlife Refuge

Trapping programs for youths and adults at Ottawa and Cedar Point Refuges resulted in the harvest of more than 600 muskrats. Two youths assigned specific units within Ottawa National Wildlife Refuge collected 265 muskrats. Two adults assigned specific units at Cedar Point National Wildlife Refuge harvested more than 2,878 muskrats. Muskrat densities had become high enough at the selected sites, posing maintenance concerns for dikes, roadways, and threatening waterfowl habitat. A total of \$3,527.77 was collected in bids. **3/98**

■ **Adult Trapping Program Reduces Muskrat Density**

Ottawa National Wildlife Refuge

Two refuge units at Cedar Point National Wildlife Refuge had more than 400 muskrat huts and broad expanses of open water indicating muskrat population densities were causing habitat damage. Two adult trappers were selected by highest bid to trap Cedar Point National Wildlife Refuge. A total of \$3,527.77 was collected in bids and 2,878 muskrats removed. **3/98**

■ **Consolidation of Information Subject of Lake Sturgeon Work Group Meeting**

Alpena Fishery Resource Office

Biologist Tracy Hill and Project leader Jerry McClain traveled to Niagara Falls, Ontario, March 24, 1998 for the annual Interbasin lake sturgeon work group meeting. Biologist Hill chaired the meeting which was attended by all current members of the work group. Each agency or university representative presented highlights of their lake sturgeon activities with emphasis on the 1997 field season. Considerable time was spent discussing development of a lake sturgeon database that would consolidate information from all sources. Biologist Hill will serve the lead role in developing and maintaining the database for the group. **3/98**

■ **Service Helps Sponsor Ohio Freshwater Mussel Symposium**

Reynoldsburg Field Office

This Freshwater Mussel Symposium was coordinated by the Columbus, Ohio, Zoo and co-sponsored by several governmental agencies including the U.S. Fish and Wildlife Service. More than 200 people attended the symposium, including mussel experts from the U.S. and elsewhere. The latest research findings were presented, advances in mussel propagation were discussed, and several sessions on specific topics were held. **3/98**

■ **Lake Erie Lake-Wide Area Management Plan Explained**

Reynoldsburg Field Office

The Lake Erie Lake-Wide Management Plan is an interagency multi-year planning effort involving Canadian and U.S. interests. It includes an assessment of pristine conditions, existing conditions, and where our societies would like to lake to go in the future. Current problems are identified, potential future actions are identified and their benefits to the lake. Several future management options will be identified and one selected for involved agencies to voluntarily work together on in the future. **4/98**

■ **Ashland's Fishery Participates in Student "Wetlands Summit"**

Ashland Fishery Resource Office

Tom Busiahn delivered the keynote address to high school students at a Wetlands Summit organized by the Waterwatch Program at the Sigurd Olson Environmental Institute, Ashland, Wisconsin. Groups of students from more than 20 high schools participated. Each student gave their own presentations on wetlands. **5/98**

■ **Movement and Growth of Larval Sturgeon Documented**

Ashland Fishery Resource Office

Larval lake sturgeon movement and growth was tracked in the Bad River, Wisconsin, by the U.S. Fish and Wildlife Service's Ashland Fishery Resource Office and Bad River Band of Lake Superior Chippewa. Larval lake sturgeon were captured at the spawning grounds and eight miles downstream. Over this distance and a period of two weeks average length of larval sturgeon doubled from 9 - 21 mm. Information on the timing and duration of larval lake sturgeon movement and their growth will assist fishery agencies with management and rehabilitation of this rare species. **5/98**

■ **LaCrosse Fisheries Office Hosts Fishing Day at Tomah**

LaCrosse Fishery Resource Office

More than 100 veterans were hosted to a day of fishing during Tomah Fishing Day at the Veterans Administration Hospital in Tomah, Wis. Prizes were provided and a great fish lunch was supplied by the crew from Genoa National Fish Hatchery. The LaCrosse Fish Health Center set up a fantastic display on its work. Other partners included the Tomah Middle School, American Legion of Wisconsin and Tomah VA Hospital. **5/98**

■ **Nine Great Lakes' Tributaries Treated During May Lamprey Control Effort**

Ludington Biological Station

The U.S. Fish and Wildlife Service conducts a sea lamprey control program under contract with the Great Lakes Fishery Commission. During May 1998, 9 tributaries to the Great Lakes were treated with lampricide and about 0.6 million larval sea lampreys were destroyed. Included in this total were about 19,800 larvae that would have transformed into the parasitic phase and entered the Great Lakes this year. Each parasitic phase sea lamprey is capable of killing 40 pounds of fish during its destructive year long parasitic phase. The successful control program continues to ensure sport fish rehabilitation in the Great Lakes and protect a fishery valued at over \$4.0 billion. **5/98**

■ **Service Acts to Save Red Cliff Band Tribal Hatchery Brood Stock**

Ashland Fishery Resource Office

The Red Cliff Band of Lake Superior Chippewa has a progressive fishery management program and modern fish hatchery, which rears the rare coaster brook trout of Lake Superior. Hatchery staff layoffs due to a severe financial crisis, threatened the brood stock. The U.S. Fish and Wildlife Service contributed \$9,000 in a grants (from three offices), and performed fish health diagnostics without reimbursement. The Service also helped arrange a \$3,500 grant from Trout Unlimited. The Bureau of Indian Affairs contributed additional funds, ensuring that the hatchery program, its brood stock, and its many cooperative projects would go on without interruption. **5/98**

■ **Service Secures Grant for Lake Sturgeon Restoration**

Ashland Fishery Resource Office

The U.S. Fish and Wildlife Service, Ashland Fishery Resources Office and two cooperators, Bad River and Red Cliff Bands of Lake Superior Chippewa, have been awarded a \$55,000 grant from the U.S. Environmental Protection Agency's Great Lakes Protection Fund to develop sturgeon rearing capabilities and conduct an egg collection and rearing pilot project in 1999. This effort is part of a lake-wide, multi-agency, effort to rehabilitate lake sturgeon populations in Lake Superior. The Bad River is one of only two rivers in U.S. waters of Lake Superior that support a self-sustaining lake sturgeon population. The Service and Tribes will use the grant to develop hatchery facilities and expertise and determine

the feasibility of the Bad River serving as a source of eggs. Eggs collected and reared will be used to augment the Bad River population and assist rehabilitation efforts elsewhere in Lake Superior. **9/98**

■ **College's Summer Ecology Class Visits the Alpena Fishery Resource Office**

Alpena Fishery Resource Office

Alpena Fishery Resource Office staff helped educate student from the Alpena Community College Summer Ecology Course (Upward Bound program) about aquatic exotics, the local fish community, and the U.S. Fish and Wildlife Service. Preserved eurasian ruffe, round goby, and zebra mussels were on display and the students viewed bottom trawling activities in the Thunder Bay River. The trawl catch was examined during the presentation to provide students with hands-on experience with different fish species and their function in the local fish community. **6/98**

■ **Service Trawlers Play Vital Role in Chicago Barrier Project**

Ashland Fishery Resource Office

Small craft trawling has been the most effective method for collecting and monitoring the range of the eurasian ruffe. Small trawlers are also demonstrating their effectiveness in capturing the round goby in the metropolitan Chicago canal system. The Chicago Barrier Project was designed to keep the round goby and eurasian ruffe from spreading into the Mississippi River and Mississippi River exotics from spreading into the Great Lakes. The U.S. Fish and Wildlife Service has been tasked with monitoring the range of the round goby in the Chicago Canal System so that the barrier can be constructed outside its current range. The Ashland Fishery Resource Office trawler has assisted in all three goby round-ups and has been instrumental in monitoring the range of the goby in the Cal-Sag Canal. Small trawlers from La Crosse and Alpena Fishery Resource Office's joined the effort during the second round-up. Together, Fishery Resource Office small trawlers have successfully tracked the goby through the Chicago Canals as well as collected gobies for research. **6/98**

■ **Kindergartners Raise Funds to Help Recover Endangered Species**

East Lansing Field Office

Kindergarten students at Bloomfield-Maple Montessori Center in West Bloomfield, Mich., are helping to recover endangered species. After

learning about Kirtland's warblers, students raised funds to help protect Kirtland's warblers and other endangered species in Michigan. Five hundred dollars were raised as a result of bottle drives and breakfasts. The East Lansing Field Office will use the funds to produce endangered species lesson plans and brochures targeted for grade school-aged audiences. **6/98**

■ **Service Participates in Great Lakes Basin Ecosystem Team Meeting**

Reynoldsburg Field Office

In June, 1998, the Reynoldsburg Field Office hosted the first of three annual meetings of the Great lakes Basin Ecosystem Team in Cleveland, Ohio. The annual meetings assist in implementing ecosystem management within the Great Lakes Basin. All Service programs were represented. Guest speakers from the Great Lakes Commission and the Lake Erie Alliance spoke on their respective areas. **6/98**

■ **Amphibian Surveys Conducted at Ottawa National Wildlife Refuge**

Ottawa National Wildlife Refuge

Amphibian surveys were conducted at Ottawa National Wildlife Refuge on the units of Metzger's Marsh, Ottawa, Darby, Navarre and Cedar Point. Five species of frogs were detected including American toads, bullfrogs, green frogs, leopard frogs and spring peepers. One salamander species, the small mouthed salamander, was found at the Darby unit. Surveys and monitoring will continue next year by refuge staff only. **6/98**

■ **Nearly 300 Canada Geese Banded at Ottawa National Wildlife Refuge**

Ottawa National Wildlife Refuge

A total of 330 Canada geese were captured at Ottawa National Wildlife Refuge. Fifty two of the geese were recaptures. All new captures were banded and 100 received neck collars. The Ottawa staff was assisted by Youth Conservation Corps enrollees Sara Mason and Adam Pfeiffer. **6/98**

■ **Karner Blue Butterfly Habitat Improved at Ohio Nature Conservancy Preserve**

Reynoldsburg Field Office

300 acres of Habitat improvement for the Karner blue butterfly is underway at The Nature Conservancy's Kitty Todd Preserve in northwest Ohio. The Nature Conservancy and the U.S. Fish and Wildlife Service's Reynoldsburg, Ohio, office signed a grant agreement during October 97. The

agreement provides Service funds to supplement funds already provided by the Ohio Division of Wildlife for habitat improvement. **6/98**

■ **Michigan Streams Assessed for Brook Trout Spawning Habitat**

Alpena Fishery Resource Office

Six streams in the eastern Upper Peninsula of Michigan were assessed for coarcted brook trout spawning habitat June 16-18, 1998, by Heather Enterline and Jennifer Abdella of the Alpena Fishery Resource Office. All streams were walked upstream from their mouths to check for barriers migrating trout may encounter. Water chemistry data was taken, and potential spawning habitat was located and assessed. **6/98**

■ **Survey Conducted For Thunder Bay River Wetland Restoration**

Alpena Fishery Resource Office

Site 22 of the Thunder Bay River was assessed recently by biologists Heather Enterline, Alpena Fishery Resource Office and Brad MacNeill, Thunder Bay Power Fisheries. The site has been scheduled for restoration in Fiscal Year 1998, funding being provided by a Service Fisheries Habitat Restoration proposal. The site was measured and filmed in order for engineering plans to be completed by Thunder Bay Power. **6/98**

■ **Toledo Harbor Management Strategy Discussed at Interagency Meeting**

Reynoldsburg Field Office

This interagency effort started about five to six years ago with the goal of decreasing the amount of sediment dredged each year from the Toledo Harbor. By reducing sediment reaching the harbor, costs for dredging disposing of dredged material would also decrease. This annual meeting summarizing what was accomplished during the past year and discussed the schedule for future work. One unique aspect of this project is that is the first such project in the U.S. where the Corps of Engineers has transferred funds — \$600,000 — to the Natural Resources Conservation Service for conservation tillage. **6/98**

■ **Genetics of Ohio's Native Brook Trout Studied**

Reynoldsburg Field Office

A June 1998 study demonstrates that Ohio's last native brook trout population is, in fact, native. The study also describes the unique genetic makeup of the population. The study was performed by the Great Lakes Science Center and

funded by both the Ohio Division of Wildlife and U.S. Fish and Wildlife Service. The Service provided pre-listing funds for the study in anticipation of receiving an eventual listing petition describing genetic listing issues. **6/98**

■ **More than 16,000 Sterile Lampreys Released in Great Lakes Streams**

Marquette Biological Station

The U.S. Fish and Wildlife Service conducts a sea lamprey control program under contract with the Great Lakes Fishery Commission. As part of this integrated pest management program, the Marquette Biological Station sterilized over 16,000 male sea lampreys for release into Great Lakes tributaries during May. Sterilized male sea lampreys compete with normal males for mates and reduce reproductive success. The sterile male release technique has been used to help control sea lampreys in the St. Marys River and Lake Superior since 1991. Personnel from the U.S. Fish and Wildlife Service (Service) and Canadian Department of Fisheries and Oceans harvested male sea lampreys from tributaries to Lakes Superior, Michigan, Huron and Ontario during their spawning migration. Males were transported to a sterilization facility located at the Lake Huron Biological Station (U.S. Geological Survey/Biological Research Division) where Service employees sterilized them. During May, over 12,000 sterile males were released in the St. Marys River and about 4,000 sterile males were released in five study streams in the U.S. and Canada. Normal male and female sea lampreys were also released into 8 study streams. The study is being conducted over a period of four years to evaluate the effect of sterile male releases. **6/98**

■ **Sterile Lampreys Released in the St. Marys River**

Marquette Biological Station

The U.S. Fish and Wildlife Service conducts a sea lamprey control program under contract with the Great Lakes Fishery Commission. As part of this integrated pest management program, the Marquette Biological Station sterilized 2,890 male sea lampreys and released them into the St. Marys River during June. Sterilized male sea lampreys compete with normal males for mates and reduce reproductive success. The sterile male release technique has been used to help control sea lampreys in the St. Marys River and Lake Superior since 1991. Personnel from the U.S. Fish and Wildlife Service and Canadian Department of Fisheries and Oceans harvested

male sea lampreys from tributaries to Lakes Superior, Michigan, and Huron during their spawning migration. Males were transported to a sterilization facility located at the Lake Huron Biological Station where Service employees sterilized them. **6/98**

■ **Spring Marsh Bird Surveys Completed at Ottawa**

Ottawa National Wildlife Refuge

Virginia rails, king rails, sora, least bitterns, American bitterns and pied-billed grebes were surveyed on Ottawa National Wildlife Refuge during the months of April - June. Data was summarized and made available to Ohio Division of Wildlife - Ohio Breeding Bird Survey. Marsh bird protocols are being investigated at the national level which may bring changes in methods and results in the future. Current data is used to evaluate and determine management objectives and goals of specific units within the refuge. **6/98**

■ **More than 47,000 Sea Lampreys Trapped During May Assessments on the Great Lakes**

Marquette Biological Station

The U.S. Fish and Wildlife Service conducts a sea lamprey control program under contract with the Great Lakes Fishery Commission. During May 1998, 47,700 adult sea lampreys were captured in assessment traps placed in 43 tributaries to the Great Lakes. Of these, 21,107 were captured in the Manistique River, Lake Michigan. Each parasitic phase sea lamprey is capable of killing 40 pounds of fish during this destructive, year long parasitic phase. The successful control program continues to ensure sport fish rehabilitation in the Great Lakes and protect a fishery valued at over \$4 billion. **6/98**

■ **Service Funds Monitoring and Predator Control for Piping Plovers in Minnesota**

Twin Cities Field Office

The only piping plovers in Minnesota nest at Pine and Curry Islands Scientific and Natural Area. Preservation of this federally-listed species is critical and their status is tenuous. Through this project, the U.S. Fish and Wildlife Service has funded the Minnesota Department of Natural Resources for two years of monitoring and predator control for these birds. **6/98**

■ **Service Trawls for Whitefish in Lake Michigan— Part of Fish Health Study**

LaCrosse Fish Health Center

Terrance Ott, of the LaCrosse Fish Health Center with help from the Michigan Department of Natural Resources on board the commercial trawler, "Robert Lewis," collected several thousand lake whitefish by trawling in Green Bay, Lake Michigan. Tissue samples were dissected from 60 of these fish and will be used in the National Wild Fish Health Survey Program for 1998. Preliminary results from the survey indicate the lake whitefish are in good physical shape. There was no apparent abnormalities identified during the examination. Findings on fish disease pathogens from this survey will be entered into a National Database System. The study will also be provided to the Michigan Department of Natural Resources. **7/98**

■ **Coaster Brook Trout Inspected at Redcliff Tribal Hatchery**

LaCrosse Fish Health Center

John Whitney, fisheries biological technician traveled to Northern Wisconsin to conduct a semi-annual fish health inspection at Redcliff Tribal Fish Hatchery, Redcliff, Wis. A total of four lots of coaster brook trout, a strain originating from Canada, were examined for the presence of "certifiable" fish pathogens according to the Federal Fish Health Policy and Great Lakes Fish Health Policy. Laboratory results on tissue samples taken are still pending. **7/98**

***A recent census of
Kirtland's Warbler
populations in Michigan
revealed a record high
number of breeding pairs.
-East Lansing Field Office***

■ **Mitchell's Satyr Butterfly Recovery Plan Completed**

East Lansing Field Office

About 100 Copies of the approved Mitchell's Satyr Butterfly Recovery Plan were mailed out July 8, 1998, from the East Lansing Field Office.

Recipients included members of the scientific community, state and federal agencies, private conservation organizations, interested individuals, affected land owners and selected members of Congress. The recovery plan was written with the help of experts within The Nature Conservancy - Indiana Chapter, and members of the recovery team, representing a wide range of expertise in many aspects of the species. The Recovery Plan will help organize recovery efforts of this rare butterfly. **7/98**

■ **Michigan Census Shows Kirtland's Warbler Population at Record High**

East Lansing Field Office

A recent census of Kirtland's Warbler populations in Michigan revealed a record high number of breeding pairs. The census, conducted last month by biologists, researchers, and volunteers revealed 805 singing males. The total breeding population -- males and females -- is twice the number of singing males, or approximately 1,600 birds. This is the highest recorded population since the first census was conducted in 1951. The 1998 census result is a remarkable increase from low numbers in 1987 when only 167 singing males were counted. The northern lower Peninsula of Michigan had 790 singing males distributed among Alcona, Clare, Crawford, Iosco, Kalkaska, Montmorency, Ogemaw, Oscoda, Otsego, and Roscommon counties. Fourteen males were found in three upper peninsula counties: Delta, Marquette, and Schoolcraft. One singing male was found in Wisconsin. This year's census results indicate that recovery efforts, including habitat management and cowbird control, have been successful in helping recover the federally endangered Kirtland's Warbler. **7/98**

■ **Tree Swallow Banding at Ottawa National Wildlife Refuge**

Ottawa National Wildlife Refuge

In 1998 the bluebird nest box program was increased from 53 to 105 boxes. Forty-seven boxes were already in place at the Davis Besse Nuclear Power plant and being monitored by a Davis-Besse employee and Ottawa volunteer. The new boxes were placed on Ottawa where only nine were in place. Although no bluebirds were reported using the boxes this year, they will

remain in their current location through next year. Two boxes were used by house wrens. A total of 202 tree swallows were banded. This number indicated a 47 percent fledge rate from the total number of eggs counted throughout the surveys. **7/98**

■ **Galerucella Beetles Released at Ottawa National Wildlife Refuge**

Ottawa National Wildlife Refuge

Shiawassee National Wildlife Refuge donated 19,214 galerucella beetles to Ottawa National Wildlife Refuge to assist them in their battle with purple loosestrife. Immediately after picking up the beetles at Shiawassee, the beetles were returned to Ottawa National Wildlife Refuge where they were released in the Darby Unit. Some beetles had survived in the area from previous releases, so the site was determined to be suitable. Thirty days after the release, herbivory was already evident on the 7.5-acre release site. **7/98**

■ **Assault on Lake Huron's Sea Lampreys Begins**

Ludington Biological Station

The U. S. Fish and Wildlife Service conducts a sea lamprey control program under contract with the Great Lakes Fishery Commission. In July, 35 Service staff and partners conducted the initial lampricide application of Granular Bayluscide (3.2 percent) to about 200 acres of the St. Marys River. Targeted were nearly 468,000 larval sea lampreys of the estimated 5.2 million larvae that infest the river. This work is the next step of an integrated process to gain effective control of sea lamprey populations in this large connecting channel between Lakes Superior and Huron. In addition to treating high density areas of larval infestations with Bayluscide, sterilized male sea lampreys are introduced and traps catch many more spawning phase adult sea lampreys each spring. Implementation of control activities in the St. Marys River adds to the successful control program and continues to ensure sport fish rehabilitation in the Great Lakes and protect a fishery valued at over \$4.0 billion. **7/98**

■ **Three Sites Repaired as Part of Thunder Bay River Restoration**

Alpena Fishery Resource Office

Service work crews began work on the Thunder Bay River Restoration June 15, 1998. Funded by grants from National Fish and Wildlife Foundation Fisheries Across America and Michigan Department of Natural Resources

Inland Fisheries Grants, the North-Eastern Michigan Council of Governments and private donors, the crew will repair 10 stream bank sites where excessive erosion has occurred. To date, three sites have been repaired, one of the sites being a canoe launch in an Avery Township park. Work on the sites will continue until September.

7/98

■ **West Sister Island National Wildlife Refuge Rookery Count Reveals Increased Nestings**

Ottawa National Wildlife Refuge

Ottawa National Wildlife Refuge staff and volunteers with the Black Swamp Bird Observatory conducted a rookery nest count on West Sister Island in early July, 1998. Great blue heron nest numbers increased by 26 percent to 1,160; great egrets increased by 14 percent to 807 and double-crested cormorants increased by 10 percent to 1,513. Black-crowned night heron nests decreased by 3 percent to 467. A single nest of cattle egret was also found this year. None of the changes from 1997 were statistically significant. The U.S. Coast Guard provided transportation to and from the island. **7/98**

■ **Piping Plover Success at Michigan's Cross Village Park**

East Lansing Field Office

The U.S. Fish and Wildlife Service and the town board of Cross Village Township, Mich., joined forces to produce a successful piping plover fledgling at a township park. The piping plover is the most endangered bird in the Great Lakes. Last year, only 23 breeding pairs were counted. After discovering plover nest in a public park, members of East Lansing Field Station contacted the township board to ask for its help. Board members allowed the Service to erect a series of predator exclosures and warning signs around the nesting site. Four eggs eventually hatched. Three chicks, however, were lost to predators or storms. The East Lansing Field Office presented a framed piping plover print to the Township Board in appreciation of the township's efforts to protect piping plover. The Service and the Township pledged to continue to work together to protect piping plover while providing recreation areas to Cross Village. **7/98**

■ **Sterile Lampreys Released in St. Marys River**

Marquette Biological Station

The U.S. Fish and Wildlife Service conducts a sea lamprey control program under contract with the Great Lakes Fishery Commission. As part of this

integrated pest management program, the Marquette Biological Station sterilized 1,476 male sea lampreys during the month of July and released them into the St. Marys River. Release of sterilized males has now concluded for the 1998 season. The release of sterile males and removal of lampreys by traps will reduce lamprey reproduction in the river by 85 percent during 1998. Sterilized male sea lampreys compete with normal males for mates and reduce reproductive success. The sterile male release technique has been used to help control sea lampreys in the St. Marys River and Lake Superior since 1991. Personnel from the U.S. Fish and Wildlife Service and Canadian Department of Fisheries and Oceans harvested male sea lampreys from tributaries to Lakes Superior, Michigan, and Huron during their spawning migration. Males were transported to a sterilization facility located at the Lake Huron Biological Station where Service employees sterilized them. **7/98**

■ **Fishery Workshop held for "Summer in Science" Camp**

Alpena Fishery Resource Office

On July 15, 1998, Alpena Fishery Resource Office staff members presented a fisheries workshop to 50 elementary school children involved in the Youth Volunteer Corps "Summer in Science" day camp. The children rotated through five information stations offering hands-on activities. Staff-led activities included a fish identification station with live fish; an explanation of unique characteristics of local fish species and fishing gear used for various species of fish. The various senses used by fish were also explained, including a display of fishing lures and how lures are made to appeal to these senses. Another station discussing what fish eat, with an emphasis on aquatic macroinvertebrates. The station included samples of common aquatic insects found in Michigan for the children to see and touch. Technician Heather Enterline, who coordinated the event, discussed some of the exotics to the Great Lakes, and how they got there, including two live sea lampreys, donated by the Hammond Bay Biological Station. The workshop was repeated on July 30 for the second summer session of the day camp. Alpena, Mich., television station WBKB Channel 11 aired a story on the educational experience July 30. **7/98**

■ **Service Hosts Interns From Northern Wisconsin High Schools**

Ashland Fishery Resource Office

Interns from the "Forest Lands Intern Program" (FLIP), at the Cable, Wis., Natural History Museum visited the U.S. Fish and Wildlife Service office on July 30, 1998. The group of 12 high school interns was selected through rigorous competition for the FLIP program, and represent the best and brightest students from northern Wisconsin. The visit included demonstrations of fish sampling equipment, fish ageing using scales and spines, and presentations on native fish restoration, aquatic nuisance species, and Service programs. 7/98

■ **Region 3 Offices Stock 1.2 Million Lake Trout Fry in Northern Lake Huron**

Alpena Fishery Resource Office

Several Region 3 Service offices collaborated to stock 1.2 million lake trout fry on 15 April at the Nordmere Reef in northern Lake Huron. A high resolution underwater video camera was used to select appropriate lake trout habitat and evaluate condition of the stocked fry. Biologists and technicians from the Alpena Fishery Resource Office designed the camera setup and operated it during the stocking. While monitoring the fry stocking with the video equipment, suitable fry habitat was identified and the fry could be seen taking refuge upon release. Use of the camera allowed biologists to be stock fry on suitable habitat and should enhance stocking success. 7/98

■ **Service Gets Commitments For Great Lakes Piping Plover Surveys and Protection**

East Lansing Field Station

The Great Lakes Piping Plover Coordination Group met in April and planned expansion of surveys and protected areas for 1998. Members of the Ohio Department of Natural Resources attended for the first time and committed to protecting piping plover migration and potential nesting habitat in two Ohio nature preserves. Michigan committed to additional surveys, to protect 100 percent of nests in State Parks; increase staff dedicated to piping plover protection and visitor education about plovers. Sleeping Bear National Lakeshore increased staff dedicated to the same, and committed to protect 100 percent of nests within the lakeshore. University of Minnesota researchers will continue banding, surveys and protection of several plover nesting areas. We are developing a cooperative agreement with University of Minnesota researchers to develop a new Great

Lakes Piping Plover Recovery Plan this winter. The Great Lakes Coordination Group agreed to provide technical and peer review of the new Plan. 7/98

■ **Larval Sea Lamprey Assessment in the Great Lakes**

Marquette Biological Station

The U.S. Fish and Wildlife Service conducts a sea lamprey control program under contract with the Great Lakes Fishery Commission. During May 1998, one Lake Superior, 17 Lake Michigan, 14 Lake Huron and three Lake Erie tributaries, and 1 Lake Michigan lentic area were examined by assessment personnel. Surveys were conducted to prepare streams for lampricide application in 1998, rank streams for lampricide application in 1999, evaluate the status of larval populations in streams that may be ranked for lampricide application in 1999 and 2000, search for new infestations and conduct biological collections. In addition, staff from participated in a habitat classification training session, which included staff from the Department of Fisheries and Oceans, Canada and the Hammond Bay Biological Station. The successful sea lamprey control program continues to ensure sport fish rehabilitation in the Great Lakes and protect a fishery valued at over \$4.0 billion. 7/98

■ **Adult Lamprey Trapping Completed on Great Lakes' Tributaries**

Marquette Biological Station

Trapping of adult lampreys ended recently on all tributaries of the Great Lakes except on the St. Marys River, a tributary to Lake Huron. More than 53,000 Sea Lamprey were trapped this season. The adult Sea Lamprey trapping season begins in April on the Great lakes, and lasts an average of nine weeks. Trapping on the St. Marys River does not begin until June, and runs through August. Personnel from the Marquette Biological Station also monitored Sea Lamprey nests in four study streams, the Middle, Misery, Rock, and Big Garlic rivers, tributaries to Lake Superior. The nest study provides a measure of relative year class strengths at the time of hatch. Each parasitic sea lamprey is capable of killing 40 pounds of fish during this destructive, year long parasitic phase. The successful control program continues to ensure sport fish rehabilitation in the Great Lakes and protect a fishery valued at over \$4.0 billion. The U.S. Fish and Wildlife Service conducts a sea lamprey program under contract with the Great Lakes Fishery Commission. 7/98

■ **More Than 800,000 Sea Lampreys killed in Great Lakes Streams**

Ludington Biological Station

The U.S. Fish and Wildlife Service conducts a sea lamprey control program under contract with the Great Lakes Fishery Commission. During June 1998, six tributaries to the Great Lakes were treated with lampricide and about 839,000 larval sea lampreys were destroyed. Included in this total were about 17,800 larvae that would have transformed into the parasitic phase and entered the Great Lakes this year. Each parasitic phase sea lamprey is capable of killing 40 pounds of fish during its year long parasitic phase. The successful control program continues to ensure sport fish rehabilitation in the Great Lakes and protect a fishery valued at over \$4.0 billion. **7/98**

■ **Additional Testing Conducted To Remove Ruffe**

Ashland Fishery Resource Office

In 1993, Ashland Fishery Resource Office conducted a study to evaluate the effectiveness of bottom trawling in physically removing eurasian ruffe, an aquatic nuisance species. The study demonstrated that bottom trawling may have some potential for removing ruffe in certain sites where ruffe are confined to isolated pools or narrow channels. Following detection of isolated colonies of ruffe in 1997, Ashland Fishery Resource Office designed a plan to conduct follow-up testing of this conclusion in August, 1998. Two isolated colonies were located in Chequamegon Bay on the south shore of Lake Superior. Bottom trawling was conducted through these colonies over a two week period separated by a one week interval. Ruffe catch rates were high initially and then declined with the most steady decline occurring in the river site. The results seem to confirm the conclusion made in the 1993 study. As ruffe expansion continues and they move into sites consisting of isolated pools or narrow channels and where the habitat immediately surrounding the pools or channels is not preferred by ruffe, bottom trawling for a two to three week period may have potential in reducing a specific colony and thereby aid in lowering the probability of further spreading from these particular sites. **8/98**

■ **Midwest Tribal Aquiculture Publication (MTAN) Posted to Worldwide Web**

Ashland Fishery Resource Office

The Ashland Fishery Resource Office has the unique distinction of providing technical assistance for the development of numerous tribal fish hatchery projects. Ashland Fishery Resource Office also contributes to these tribal hatchery programs by publishing a quarterly newsletter. The Midwest Tribal Aquiculture Network (MTAN) is dedicated to assisting tribal hatchery programs through the sharing of cool/cold water fish culture information and practices. Previous issues of the MTAN have now been linked to the Ashland Fishery Resource Office Home Page along with other tribal hatchery stocking information. Readers can view previous editions of the MTAN by pointing their URL indicator to: www.fws.gov/r3pao/ashland/mtan/mtanhome.html. **8/98**

■ **Lake Sturgeon Reintroduced on Menominee Reservation in Wisconsin**

LaCrosse Fishery Resource Office

As part of a cooperative management plan involving the U.S. Fish and Wildlife Service, the Menominee Indian Tribe of Wisconsin and the Wisconsin Department of Natural Resources, nine adult Lake sturgeon were recently reintroduced to Tribal waters of the Wolf River in Wisconsin. Lake sturgeon historically migrated up the Wolf River to Reservation waters during the spring spawning season. This migration is now blocked by two hydro power dams. The cooperative management plan calls for transfer of adult lake sturgeon to a stretch of the Wolf River on the Reservation as part of an ongoing effort to restore lake sturgeon in this portion of the species' range. **8/98**

■ **Karner Blue Butterflies Reintroduced to Ohio**

Reynoldsburg Field Office

Karner blue butterflies are flying again in Ohio for the first time since 1988! In the first year of a five year reintroduction program, Karner blue butterflies were reintroduced to the oak openings region of northwest Ohio during the summer of 1998. Adult Karner blues were successfully captured in southern Michigan and transported to Ohio for captive rearing. More than 600 eggs and 400 larvae were produced in captivity. From these, more than 200 Karner blues were released into the wild oak openings region in Ohio. **8/98**

■ **Service Monitors Karner Blue Population at Kiddy Todd Preserve**

Reynoldsburg Field Office

More than 200 Karner blue butterflies in the wild at The Nature Conservancy's Kitty Todd Preserve were successfully monitored during 1998. More than 600 eggs, 400 larvae, and less than 40 adult Karner blues were successfully monitored in captivity at the Toledo Zoo in Ohio. The Toledo Zoo signed grant agreements with the U.S. Fish and Wildlife Service's Reynoldsburg Field Office and with the Ohio Division of Wildlife. The agreements make funds available for monitoring for each of five years during which Karner blues are being reintroduced to Ohio. **8/98**

■ **Lake Erie Water Snake Outreach Effort**

Reynoldsburg Field Office

On August 19, 1998, Service Project Leader Kent Kroonemeyer presented the mayor of Put-in-Bay, Ohio, (located on South Bass Island) with a Service-produced sign that declares, "Water Snakes Welcome Here." The sign includes a picture of a Lake Erie Water Snake and additional information about the snake. A similar presentation was made August 20, to the mayor of Kelley's Island, Ohio. The Ohio Department of Wildlife and private citizens were interviewed by Channel 8, Cleveland, Ohio, regarding the this outreach effort, which is proving successful in changing negative attitudes regarding the snake. **8/98**

■ **Service Informs NOAA: Coastal Zone Section 7 Consults Are Incomplete**

Reynoldsburg Field Office

At a Coastal Zone Management Workshop in Cleveland, Ohio, on August 8, 1998, Rachel Miller of the Service's East Lansing Field Office, and Buddy Fazio of Reynoldsburg Field Office informed officials at the National Oceanic and Atmospheric Administration that Endangered Species Act Section 7 consultation responsibilities are not being fully met for coastal zone management programs in Ohio and Michigan. Debate over Section 7 consultation pertinent to pre-project planning and post-project re-initiation has continued between NOAA and the Service since early 1997, especially because NOAA provides both project and program planning funds to state personnel implementing coastal zone management. Federally listed species are currently not addressed in all aspects of each state's coastal zone management program. **8/98**

■ **Five Elephant Tusks Seized at Columbus, Ohio Airport**

Detroit Metro Airport Law Enforcement Office

Five elephant tusks illegally imported into the United States were seized July 13, 1998 at an airport in Columbus, Ohio. The ivory tusks were flown by private jet to Columbus from Morocco. The tusks were reportedly purchased from an antique dealer in Morocco for \$12,000 and were said to be for personal use. U.S. Customs seized the tusks for the U.S. Fish and Wildlife Service after determining the tusks did not meet legal requirements for importation. The importer has abandoned the tusks, which have since been turned over to the Service. Following a 60-day waiting period, the tusks will become U.S. property, at which time they will be donated to zoos and schools for educational purposes. The ban on importation of elephant ivory into the United States is still in effect with few exemptions for legal imports. **8/98**

■ **Service Coordinates Karner Blue Butterfly Protection, Spraying for Gypsy Moths**

Reynoldsburg Field Office

Buddy Fazio of the Reynoldsburg Field Office met with key agricultural partners to discuss safeguards for Karner blue butterflies in four northwest Ohio counties subject to gypsy moth spraying. The Endangered Species Act and Karner blue protection were discussed with gypsy moth coordinators from the Ohio Department of Agriculture on July 10, 1998, and Ohio Agricultural Extension August 8, 1998. All partners agreed to coordinate early on gypsy moth spraying and Karner blue protection in the four counties of concern. **8/98**

■ **Erosion Sites Restored on Thunder Bay River Watershed**

Alpena Fishery Resource Office

The Thunder Bay River Watershed Restoration Committee has restored 10 of the 11 stream bank erosion sites scheduled for the 1998 field season. One of the larger sites was at a township park used as a canoe launch. Steps were installed to the river's edge, and a canoe launch platform was placed at the base of the steps. Rock rip-rap was placed at the base of the rest of the site. Grasses were planted on the top portion and held in place by jute netting. The other sites were on private property and were repaired with a combination of tree revetments, rock rip-rap, plantings of grasses and bushes and the utilization of jute netting to stabilize slopes until the grass took root. The last site to complete this summer is very large- 250

feet in length, involves the use of heavy machinery is scheduled to be completed by the end of September. Funding for these restoration activities include grants from the Service's Fisheries Habitat Restoration Proposal, the National Fish and Wildlife Service's Fisheries Across America program, Michigan Department of Natural Resources Inland Fisheries Grants, and the Montmorency County Conservation Club. **8/98**

■ **Rivers, Streams Surveyed as Part of Lake Huron Coaster Brook Trout Study**

Alpena Fishery Resource Office

During August Technician Heather Enterline and Biological Science Aide Abdella assessed rivers and streams in the Upper Peninsula of Michigan and in Ontario, Canada. All rivers and streams assessed were reported to support coaster brook trout populations in the past. Unfortunately, few of the streams provided access to spawning grounds or maintained a water temperature that would support juvenile coasters. Streams that maintained good flow and temperature were sampled for coasters with a backpack electro-fisher. Although none of the brook trout caught could be positively identified as coasters, tissue samples were taken from all brook trout, and these streams will be watched carefully in the fall for possible coaster spawning runs. **8/98**

■ **Northern Monkshood Plant Restoration Continues in Northeast Ohio**

Reynoldsburg Field Office

Efforts continue in northeast Ohio to monitor, manage, and restore a population of the northern monkshood plant. The Service's Reynoldsburg, Ohio, office and the Ohio Division of Natural Areas and Preserves signed a cooperative agreement which commits Service funds for three years, starting in fiscal year 1998. Cooperative efforts are also being discussed with the Ohio Department of Transportation, the City of Cuyahoga Falls, Ohio, and Summit County, Ohio, Metroparks. Reduction or diversion of road salt run-off from a nearby highway is a key problem being discussed. **8/98**

■ **21 Great Lakes' Streams Assessed for Larval Sea Lamprey**

Marquette Biological Station

The U.S. Fish and Wildlife Service conducts a sea lamprey control program under contract with the Great Lakes Fishery Commission. During August, 1998, 21 Lake Superior, Michigan, Huron, and Erie streams and lentic areas were examined

by assessment personnel. Surveys were conducted to prepare streams for lampricide treatment, search for new infestations, make biological collections, evaluate treatment success, and to make quantitative estimates of population size necessary to determine streams that will require treatment in 1999. The successful sea lamprey control program continues to ensure sport fish rehabilitation in the Great Lakes and protect a fishery valued at over \$4.0 billion. **8/98**

■ **Sturgeon Populations Assessed on Great Lakes' Tributaries**

Marquette Biological Station

The U.S. Fish and Wildlife Service, under contract with the Great Lakes Fishery Commission, assessed lake sturgeon populations in four tributaries of the Great Lakes basin during July and August, 1998. Studies were conducted in two tributaries to Lake Superior: the Bad River in Ashland County, Wisconsin, and Sturgeon River in Houghton/Baraga counties, Michigan; and two tributaries to Lake Michigan: the Peshtigo River in Marinette County and Oconto River in Oconto County, Wisconsin). A total of 52 young of the year lake sturgeons were observed in the Bad, Sturgeon, and Peshtigo rivers during both months and no sturgeons were observed in the Oconto River during either month. The sturgeon ranged from 82 to 229 mm total length. The assessments are conducted by visual observation, bottom trawl, seine, and gill net and provide important information used to develop treatment strategies in the Sea Lamprey Management Program. **8/98**

■ **1.7 Million Sea Lampreys Killed in Great Lakes Streams**

Ludington Biological Station

The U.S. Fish and Wildlife Service conducts a sea lamprey control program under contract with the Great Lakes Fishery Commission. During July 1998, three tributaries to the Great Lakes were treated with lampricide and about 1,745,000 larval sea lampreys were destroyed. Included in this total were about 54,000 larvae that would have transformed into the parasitic phase and entered the Great Lakes this year. Each parasitic phase sea lamprey is capable of killing upwards of 40 pounds of fish during its year long parasitic phase. **8/98**

■ **Service Scours Great Lakes for Sea Lampreys**

Ludington Biological Station

The U.S. Fish and Wildlife Service conducts a sea lamprey control program under contract with the Great Lakes Fishery Commission. During July 1998, 24 Lake Superior, Michigan and Huron streams and lentic areas were examined by assessment personnel. Surveys were conducted to prepare streams for lampricide treatment, search for new infestations, make biological collections, evaluate treatment success, and to make quantitative estimates of population size necessary to determine streams that will require treatment in 1999. The successful sea lamprey control program continues to ensure sport fish rehabilitation in the Great Lakes and protect a fishery valued at over \$4.0 billion. **8/98**

■ **Ashland Fishery Resource Office Accomplishments Posted to Home Page**

Ashland Fishery Resource Office

Accomplishments of the Ashland Fisheries Resource Office are now posted on the Fishery Resource Office's web page. The Fishery Resource Office can now share our fish and wildlife resource accomplishments with the very people who pay our salaries. The listing our station's accomplishments is the most recent addition to our Home Page (www.fws.gov/r3pao/ashland) to further help inform our cooperators of the resource activities we have concluded, and provide for a better avenue of contact to those staff members associated with specific projects. **9/98**

■ **1.7 Million Sea Lampreys Destroyed, Lake Trout Saved**

Ludington Biological Station

The U.S. Fish and Wildlife Service conducts a sea lamprey control program under contract with the Great Lakes Fishery Commission. During August 1998, 3 tributaries to the Great Lakes were treated with lampricide and about 1,700,000 larval sea lampreys were destroyed. Included in this total were about 60,000 larvae that would have transformed into the parasitic phase and entered the Great Lakes this year. Each parasitic phase sea lamprey is capable of killing upwards of 40 pounds of fish during its year long parasitic phase. The successful control program continues to ensure sport fish rehabilitation in the Great Lakes and protect a fishery valued at over \$4.0 billion. **9/98**

■ **Final Restoration Plan for Midco I and II Completed**

Bloomington Field Station

A Natural Resources Damage Assessment was previously conducted for damages at two Midwest Solvent Recovery Company (Midco) sites in Lake County, Indiana. In 1992, the Bongi property was transferred to the State with \$105,000 for restoration, rehabilitation, or replacement of resources injured on the two sites. Federal and State trustees completed a restoration plan to identify ways to restore the 258.8-acre property. It is the largest remnant of dune and swale habitat in the state, and one of the state's richest, supporting endangered plants and animals. The long-term viability of species on the property and an adjacent nature preserve depends on protection of the site. Implementation of the restoration plan is underway. **9/98**

■ **Service Gets Results of Ohio Lake Erie Water Snake Study**

Reynoldsburg Field Office

Results from a recent Lake Erie water snake population study were received by the Service on May 10 and Sept. 10, 1998. The results are the final set of information necessary for the Service to finish data evaluation and publish a listing decision. The study was initiated because a Congressional listing moratorium caused an earlier data set to become too old to allow a credible decision of whether or not to list. The study was performed by Dr. Richard King of Northern Illinois University. The study was jointly funded by the Ohio Division of Wildlife and the Service's Reynoldsburg, Ohio, Ecological Services office. **9/98**

■ **Alpena Fishery Resource Office Begins Detroit River Lake Sturgeon Work**

Alpena Fishery Resource Office

Biologist Tracy Hill has been working to complete a Quality Assurance Project Plan (QAPP) for a Detroit River lake sturgeon project being funded by the Environmental Protection Agency's Great Lakes National Program Office. The QAPP is a formal document detailing the quality control and other technical activities to be implemented to ensure satisfactory results of the a proposed project. The Alpena Fishery Resource Office is working jointly with personnel from the U.S. Geological Survey's Great Lakes Science Center on a project to evaluate lake sturgeon spawning habitat in the Detroit River. Alpena staff has been working with sports groups and individuals in the Detroit River area to establish a network of

cooperators for assistance on the lake sturgeon project. Biologist Hill will make a presentation to the Down River Walleye Club on September 21, 1998 to inform the club about the lake sturgeon project, and solicit the club's support. Arrangements have been made to tour the river with a local lake sturgeon angler. 9/98

■ **Great Lakes Lake Sturgeon Web Page Initiated to Consolidate Study Data**

Alpena Fishery Resource Office

Biologist Tracy Hill is developing a Great Lakes Lake Sturgeon Web Page. The web page is the result of a project funded by the Great Lakes Basin Ecosystem Team. The page will consolidate information from the numerous Service field stations that are conducting lake sturgeon projects. The web page is a mechanism for sharing information between stations across the basin. It will increase the timeliness of information dissemination and should result in accelerated compilation of data required for restoration and recovery of this depleted native Great Lakes' fish. The page will also serve as a mechanism for educating the general public and scientific community relative to Service roles, responsibilities and activities regarding depleted native species such as lake sturgeon. 9/98

■ **Service Drafts Recovery Plan For Lake Superior Coaster Brook Trout**

Ashland Fishery Resource Office

The U.S. Fish and Wildlife Service's plan to rehabilitate the big, colorful, anadromous native coaster brook trout of Lake Superior was presented recently to the Lake Superior Technical Committee (LSTC). The draft plan was presented by Lee Newman of the Service's Ashland Fishery Resources Office. Newman is chairman of the Subcommittee on Brook Trout in Lake Superior (BTSC) and lead editor of the plan. More than two years in development, the recovery plan provides general guidelines for federal, state, provincial and tribal resource management agencies in restoring severely depleted stocks of this native fish. The LSTC and the BTSC will work to make final editorial changes to the plan until the January 1999 meeting of the LSTC, where final approval of the plan is expected. Highlights of the draft plan include recommendations to restore the coaster to as many of its more than 100 native spawning streams as possible under current conditions and to implement programs to restore degraded stream habitats that are no longer able to support coasters. The plan also emphasizes the need for

protective management of the few remnant native stocks, and for developing reintroduced stocks. 9/98

■ **Ohio Public Embraces Lake Erie Water Snake Signs**

Reynoldsburg Field Office

Over 200 residents on four western Lake Erie islands have embraced Lake Erie water snake conservation signs they received during the summer months as part of a continuing public education campaign. The residents post the signs on docks, porches and elsewhere to show support for conserving Lake Erie water snakes. The signs have also been accepted by the governor of Ohio and the mayors of the Ohio island towns of Put-in-Bay and Kelleys Island. The signs were offered to over 900 residents living on four western Lake Erie islands. 9/98

■ **Lake Erie Water Snake Education Programs Reach Ohio Residents and Officials**

Reynoldsburg Field Office

Another successful year of Lake Erie water snake public education was completed in Fiscal Year 1998 by the U.S. Fish and Wildlife Service's Reynoldsburg Field Office and the Ohio Division of Wildlife. Activities during year included landowner contacts, displays, and talks at a number of public events held on Kelleys Island, South Bass Island, Middle Bass Island, and Gibraltar Island. A very successful Lake Erie water snake conservation sign campaign is helping island residents take ownership of Lake Erie water snake protection on the islands. The Service and the Ohio Division of Wildlife signed a cooperative agreement during December 1997 to continue successful education efforts through Fiscal Years 1999 and 2000. 9/98

■ **Ashland Begins Salmon Trout River Watershed Project in Michigan**

Ashland Fishery Resource Office

The U.S. Fish and Wildlife Service recently began work on a cooperative study to inventory the fish, invertebrates and physical parameters of the Salmon Trout River watershed in Michigan's Upper Peninsula. The Ashland Fishery Resource Office has partnered with Michigan Department of Natural Resources and the Huron Mountains Club, a major area land owner, to conduct the study which has also received assistance from the national offices of Trout Unlimited. The goal of the study is to describe the environmental problems that are restricting the productivity of the watershed, and to identify the most effective

ways and means of restoring its quality and productivity. The Salmon Trout river supports native (stream resident) brook trout populations in its upper reaches and anadromous salmonids (steel heads and coho salmon) in the sections below the falls. The lower river also supports a population of anadromous or "coaster" brook trout. Coasters were once widespread and abundant in Lake Superior. However, the Salmon Trout River is now the only river on the U.S. mainland that still has a reproducing population. In all of Lake Superior, only a few other small populations are known to exist, some on Isle Royale, Mich., and the remainder in Ontario, Canada. 9/98

■ **Alpena Fishery Resource Office Cultivates Partnerships For Sturgeon Restoration on the Detroit River**

Alpena Fishery Resource Office

Alpena Fishery Resource Office staff recently gave a lake sturgeon presentation to the DownRiver Walleye Federation to inform the group about an upcoming lake sturgeon project that the Service will be conducting on the Detroit River. An overview of current lake sturgeon work being coordinated at the Fishery Resource Office and the Detroit River sturgeon project was given. The meeting was an excellent opportunity for Service staff to build important partnerships with local organizations on the Detroit River. The DownRiver Walleye Federation was organized to unite sport anglers the fish the lower Detroit River; approximately 70 individuals attended the meeting. 9/98

■ **Service Secures \$55,000 Grant for Lake Sturgeon Restoration Effort**

Ashland Fishery Resource Office

The U.S. Fish and Wildlife Service in a partnership with Bad River and Red Cliff Bands of Lake Superior Chippewa, have been awarded a \$55,000 grant from the U.S. Environmental Protection Agency's Great Lakes Protection Fund to develop sturgeon rearing capabilities and conduct an egg collection and rearing pilot project in 1999. The effort is part of a lake-wide, multi-agency, effort to rehabilitate lake sturgeon populations in Lake Superior. The Bad River is one of only two rivers in U.S. waters of Lake Superior that support a self-sustaining lake sturgeon population. The Service and Tribes will use the grant to develop hatchery facilities and expertise and determine the feasibility of the Bad River serving as a source of eggs. The two Tribes will assist the Service's Ashland Fishery

Resources Office collect up to 150,000 eggs from between two to four females and rear fry, fingerlings, and advanced fingerlings. All fish will be released in the Bad River. Assessment efforts to determine the success of stocking efforts will be conducted by Ashland Fishery Resources Office. Eggs collected and reared will be used to augment the Bad River population and assist rehabilitation efforts elsewhere in Lake Superior. 9/98

■ **Wisconsin Department of Natural Resources Helps Horicon National Wildlife Refuge Meet Mallard Banding Quota**

Horicon National Wildlife Refuge

Horicon National Wildlife Refuge completed its mallard duck banding quota of 400 birds on September 23, 1998. Staffers and wardens from the Wisconsin Department of Natural Resources participated in the banding. The recently graduated class of Department of Natural Resources wardens also attended, where they learned more about the banding program, handling of waterfowl, and how to age and sex mallards using feather and bill characteristics. 9/98

■ **Cooperative Agreement Restores 55 Wetland Acres**

Ottawa National Wildlife Refuge

The Ottawa National Wildlife Refuge Private Lands program, in cooperation with the Lenawee County, Ohio, Soil and Water Conservation District (SWCD,) Ducks Unlimited, Lenawee County Preservation Fund, and the Natural Resource Conservation Service restored 15 wetlands for a total of 55 acres. The restorations were completed through a cooperative agreement between the Service's Partners for Wildlife Program, Lenawee Preservation Fund and the Lenawee County SWCD. Administration was handled by the Service and Lenawee SWCD while the ground work was completed by a Preservation Fund Biologist. The Partners for Wildlife program and Ducks Unlimited provided the funding for construction costs to complete the projects. 9/98

■ **Ottawa National Wildlife Refuge Crew Restore 70 Acres of Wetlands**

Ottawa National Wildlife Refuge

The Ottawa National Wildlife Refuge Private Lands program in cooperation with the Hillsdale County Natural Resources Conservation Service, and Lenawee County, Ohio. Pheasants Forever restored 14 wetlands for a total of 70 acres in Hillsdale County Michigan. The restorations

were completed by a construction crew from the Ottawa National Wildlife Refuge. **9/98**

■ **Ashtabula River Partnership**

Reynoldsburg, Field Office

The lower Ashtabula River and near shore area of Lake Erie has been identified as an Area of Concern by the International Joint Commission. The Ashtabula River Partnership has been developing plans to remove and contain approximately 700,000 cubic yards of contaminated material from the lower portion of the river. Part of the project will be conducted under Section 312(b) of the Water Resource Development Act (WRDA) of 1990, (Environmental Dredging) as amended by Section 205 of WRDA of 1996. A Draft Comprehensive Management Plan and Environmental Impact Statement should be released for public review in early January, 1999. **9/98**

■ **Reynoldsburg Field Office Hosts Endangered Species Act-Bat Workshop**

Reynoldsburg Field Office

Buddy Fazio of the Reynoldsburg Field Office taught bat management and Sections 4,7,9, and 10 of the Endangered Species Act to 70 participants in a bat workshop on September 3, 1998. A large cross section of people –from both public and private sectors– attended the workshop. The workshop took place on the campus of Kent State University in northeast Ohio. **9/98**

■ **Service Improves Private Land Habitat for Karner Blue Butterfly in Ohio**

Reynoldsburg Field Office

During Fiscal Year 1998, habitat improvement efforts for the Karner blue butterfly on non-federal land were initiated. The U.S. Fish and Wildlife Service's Reynoldsburg Field Office signed an agreement with the Ohio Division of Natural Areas and Preserves. The cooperative agreement provides funds for improvement of Karner blue habitat on private land or other non-federal land in the oak openings region of northwest Ohio. Habitat improvements are already underway at The Nature Conservancy's Kitty Todd Preserve via separate agreement. **9/98**

■ **Alpena Fishery Resource Office Completes Thunder Bay River Restorations**

Alpena Fishery Resource Office

The Thunder Bay River Watershed Restoration Committee has had an extremely productive field

season. Ten stream bank erosion sites will be restored on the main branch of the Thunder Bay River by October 2, 1998. Nine of these sites are completed, and the tenth, an enormous endeavor by the Restoration Committee (a 250- foot long, 14-foot high site that required heavy machinery to repair) will be completed before fall gets a grasp on Northern Michigan. Restoration sites varied in size and difficulty; eight of the ten sites were on private property. Steps down to the river and canoe launches were built at a township park and at a road crossing. All sites are on the main branch of the Thunder Bay River, and close to the headwaters. The goal of the Thunder Bay River Restoration Committee is to begin at the headwaters and work our way down the watershed as funding is acquired to repair stream bank erosion sites. Basic restoration techniques are used to stabilize these eroding banks using almost exclusively natural materials to create not only a "natural look" for aesthetic purposes but also to add nothing but natural substances to the watershed. The crew labor costs were paid by Michigan Department of Natural Resources Inland Fisheries Grants, while all materials purchased and equipment rented were paid by the National Fish and Wildlife Foundation Fisheries Across America and a Service Fisheries Habitat Restoration Proposal. Technician Heather Enterline of the Alpena Fishery Resource Office oversaw expenditures of the National Fish and Wildlife Foundation and Service grants. **9/98**

■ **Planned Road Crossing Will Control Sediment in Black River Tributary**

Alpena Fishery Resource Office

Road Crossing 622 at Canada Creek, a large tributary of the Upper Black River, is one of the largest contributors of silt and sand into the entire Black River watershed. Because the crossing is located at the headwaters of the creek, silt and sediment input adversely affects a genetically pure strain of brook trout that inhabit the watershed. The Upper Black River Watershed Committee, in conjunction with the National Fish and Wildlife Foundation, have formulated a plan to repair the crossing by altering the path of rainwater along the road and ditches to reduce the silt and sand input to the creek. Originally, the Restoration Committee planned to pave the site. Unfortunately funding has limited us to the project above, however the Montmorency Road Commission has volunteered to seal-coat the portion of the road we were going to pave. **9/98**

■ Northern Lake Huron Fish Distribution Study

Alpena Fishery Resource Office

Fishery biologists representing the Bay Mills Indian Community, Chippewa-Ottawa Treaty Fishery Management Authority, Michigan Department of Natural Resources and the Service's Alpena Fishery Resource Office have reached agreement on an assessment study for northern Lake Huron to evaluate the compatibility of gill net fishing for lake whitefish and the ongoing interagency lake trout rehabilitation effort in those waters. A similar study, initiated by the Bay Mills Indian Community was halted in May after the State of Michigan requested and received a temporary restraining order. The Technical Fisheries Review Committee (TFRC), for which the Service is represented by Jerry McClain, Alpena Fishery Resource Office project leader, met in mid-May and established a technical sub-committee and charged them to identify areas of dispute and to develop an assessment study plan. The technical sub-committee, developed a study plan that was agreed to by all parties and signed by the three TFRC members (Michigan Department of Natural Resources, Chippewa-Ottawa Treaty Fishery Management Authority, and Service). Although much of the first year of the study was lost in the negotiations, the fall and winter of 1998 and the entire 1999 fishing year will be assessed and should provide valuable data needed for negotiating an agreement for allocation of the northern Lake Huron fishery resources in the year 2000. A 15 - year agreement is currently in place to address the allocation but will expire in March 2000. **9/98**

■ Service Contaminant Expertise Brought to State Regulators

East Lansing Field Office

Dr. Lisa Williams of the U.S. Fish and Wildlife Service's East Lansing Field Office taught two sessions of "Behavior of PCBs, PCDDs, and PCDDs with Special Emphasis on the Great Lakes" to staff members of Surface Water Quality Division, Michigan Department of Environmental Quality during their in-service training August 25, 1998. Approximately 80 Division staff members were educated on the chemistry, fates and effects of PCBs and dioxin. The staff members are responsible for the quality of the surface waters of Michigan, including all Michigan tributaries to the Great Lakes. As a result of the training, SWQD staff from around the state will understand the

fate of PCBs and related compounds in wastewater streams and treatment plants and the significance of even undetectable releases of these compounds to fish, wildlife and humans. This will enable them do better job of reviewing National Pollutant Discharge Elimination System (NPDES) permits and industrial pretreatment plans. **9/98**

■ Trout Receive Antibiotics at Iron River National Fish Hatchery

LaCrosse Fish Health Center

Staffs from several federal hatcheries and one tribal fish hatchery came together recently to assist the LaCrosse Fish Health Center administer an antibiotic to thousands of Lake trout and Coaster brook trout at the Iron River National Fish Hatchery near Ashland, Wisconsin. Bacteria that causes a kidney disease in salmonid was discovered by biologists during a recent routine fish health inspection at the Iron River facility. Erythromycin phosphate, an antibiotic, was injected into the fish to reduce or eliminate the bacterial organism. Partners in the effort included the Iron River, Pendills Creek, and Jordan River National Fish Hatcheries; and the Red Cliff Tribal Fish Hatchery. **9/98**

■ Lake Erie Water Snake Spotlighted in Ohio's Coast Weeks Event

Reynoldsburg Field Office

Over Labor Day weekend, approximately 700 people were educated about the Lake Erie water snake and the Endangered Species Act. Buddy Fazio of the Reynoldsburg field Office and Melissa Hathaway of the Ohio Division of Wildlife, performed eight presentations to 200 people over eight days. Informal discussions and museum displays were shared with another 500 people over the same eight-day period. The Lake Erie water snake presentations were performed at the South Bass Island historic fish hatchery as part of Ohio's Lake Erie showcase events collectively called Coast Weeks. **9/98**

■ Ashland Fishery Resource Office Surveys Streams at Mole Lake Indian Reservation

Ashland Fishery Resource Office

The Ashland Fisheries Resource Office recently conducted a series of inland stream surveys at the Mole Lake Indian Reservation. The purpose of the stream shocking effort was to determine if trout species are present, and if any trout stocking should be recommended for these areas. Length and abundance data were recorded for the trout species collected and a summary report was sent

to the Tribe. Significant trout reproduction is occurring at Glishke Creek, and this site may be used to obtain trout for transfer to other streams on the Reservation. Plans to repair the Mole Lake fish hatchery before eggs are received next year were also discussed. **9/98**

■ **Settlement Funds Used for Indiana Wetland Enhancement Project**

Bloomington Field Office

Federal and state trustees completed a restoration plan in 1997 to compensate for natural resources injured at the Fisher-Calo Chemical site in LaPorte County, Indiana. Funds were secured through Natural Resource Damage Assessment settlement. As part of the restoration plan, trustees have a cooperative agreement with the Lake Heritage Parks Foundation to participate in the Goose Lake Wetland Enhancement Project in Lake County, Indiana. This project will restore 520 acres of wetlands for waterfowl, shorebirds, and other wildlife. It is located in what was once the largest inland wetland in the U.S., the Grand Kankakee Marsh, which was drained for farming. **9/98**

■ **Service Technical Assistance Provided to Wetland Reserve Program**

Michigan Private Lands Office

During Fiscal Year 1998, the Michigan Private Lands Office participated in Wetland Reserve Program review of, and made biological recommendations to, the Natural Resource Conservation Service regarding 40 properties totaling more than 7,300 acres. During FY98, NRCS obligated approximately \$6 million dollars to protect 8,000 acres in Michigan through the WRP. The technical assistance provided by the Service has enhanced the biological value of these conservation easements for migratory birds including waterfowl. **FY98**

■ **Assistance to NRCS Focuses on Wildlife, Improved Habitat Through EQIP Program**

Michigan Private Lands Office

During Fiscal Year 1998, the Michigan Private Lands Office provided technical assistance to the NRCS to enhance wildlife benefits from the \$3.2 million Environmental Quality Incentives Program in Michigan. While much program emphasis was on livestock-related practices, input from the Service steered some effort toward providing wildlife habitat while protecting soil and water resources. **FY98**

■ **Service Assists NRCS With \$15.5 Million Conservation Reserve Program**

Michigan Private Lands Office

During Fiscal Year 1998, the Michigan Private Lands Office provided technical assistance to the Natural Resources Conservation Service to enhance wildlife benefits derived from the \$15.5 million Conservation Reserve Program in Michigan. The Service provided recommendations to improve the quality of habitat enrolled in FY98 for migratory birds and endangered species. **FY98**

■ **Technical Assistance Provided to NRCS for WHIP**

Michigan Private lands Office

During Fiscal year 1998, the Michigan Private Lands Office provided technical assistance to the Natural Resources Conservation Service to enhance wildlife benefits derived from the \$0.5 million Wildlife Habitat Incentive Program in Michigan. The Service provided recommendations to improve the quality of habitat enrolled in FY98 for migratory birds and endangered species. **FY98**

■ **Service Assists Farm Service Agency Restore, Protect Habitat**

Michigan Private Lands office

The Michigan Private Lands Office provided technical assistance to the Farm Service Agency to identify and delineate conservation easements to be placed on inventory properties. During Fiscal Year 1998, the Service provided recommendations to protect and restore habitat for migratory birds and endangered species through placement of five conservation easements encompassing 228.1 acres. **98**

■ **Michigan Private Lands Office Conducts Outreach Activities**

Michigan Private lands Office

During Fiscal Year 1998, the Michigan Private Lands Office conducted outreach activities that reached more than 120,000 visitors with messages related to trust resources including migratory birds and endangered species. Activities included displays at the State Capitol(15,000 visitors), Outdoorama show (100,000), Bluebird Festival (2,700), Maple Syrup Festival (1,500) and International Migratory Bird Day celebration (1,900). **FY 98**

■ **22 Wetland Restorations Completed, 160 Acres Total**

Michigan Private Lands Office

Through partnerships, the Michigan Private Lands Office completed 22 wetland restorations totaling 160 acres. The Michigan Wildlife Habitat Foundation, through a cooperative agreement, completed the bulk of these restorations. These projects were often completed with cooperation from county drain commissioners. Additional restorations were completed through the Kalamazoo Conservation District. Partners, including landowners, contributed approximately 50 percent of the cost of the projects. **FY98**

■ **Indiana Conservation Officer Recruits**

Indianapolis Law Enforcement Office

On September 2, 1998, Special Agent Harris provided a summary of federal wildlife laws and regulations to the 24 newly hired Indiana Conservation Officer Recruits in Warsaw, Indiana. The officers also had the opportunity to participate in a waterfowl enforcement detail during the early dove, teal and goose opener, where they contacted numerous hunters and observed several violations. **FY98**

■ **Service, EPA Enforcement Agencies Form Workgroup**

Rosemont, Law Enforcement Office

The U.S. Fish and Wildlife Service's Region 3 and Environmental Protection Agency's Region 5 have formed a workgroup to address the problem of exposed oil pits and spills that cause wildlife mortalities and endangerment to human health and the environment. Aerial surveys will soon be initiated to locate these sites. Sites operated by companies and individuals who do not voluntarily comply with environmental protection regulations will be prioritized by the workgroup for enforcement action by the state, U.S. Environmental Protection Agency or the Department of Justice. Service Law Enforcement will address migratory bird and endangered species mortalities unilaterally. EPA has agreed to allocate \$10,000 to Service Law Enforcement for aerial survey and reconnaissance flight time to locate these problem sites. Initial surveys will be conducted over the oil fields of Indiana. **7/98**

■ **Agencies Combine Capabilities to Survey Indiana Bats**

Reynoldsburg Field Office

State and federal agencies combined their capabilities to survey for Indiana bats and other bats in Ohio during Fiscal Year 1998. Four primary agencies are pooling funds, equipment, people, and coordination ability as part of an overall effort to better understand management of and habitat use by Indiana bats and other bats in Ohio. The agencies are the Reynoldsburg, Field Office, Ohio, Fish and Wildlife Service, the Ohio Division of Wildlife, the Ohio Biological Survey and the U.S. Forest Service's Wayne National Forest. **7/98**

■ **Service Provides Endangered Species Instruction for Ohio Transportation Employees**

Reynoldsburg Field Office

Buddy Fazio of the Reynoldsburg Field Office teaches Endangered Species Act Section 7 consultation quarterly to Ohio Department of Transportation employees and consultants. During Fiscal Year 1998, a total of 120 participants were educated about the Endangered Species Act, and the Section 7 consultation process. The course results in more efficient and thorough consultation regarding Federally listed species and transportation projects in Ohio. **9/98**

■ **Service Involved in Wisconsin's Strategic Plan for Fish and Wildlife Resources**

Federal Aid Office

The Federal Aid Program Funding Option (accountable block grant) has provided a means for the Service's Federal Aid program to help the Wisconsin Department of Natural Resources to retain the integrity of their comprehensive management system for managing the State's fish and wildlife resources, in the face of major restructuring and effort to do integrated ecosystem management on a watershed basis. Currently, the Service's Federal Aid Office is encouraging the Department to pursue basic evaluations and revisions in their strategic planning in order to retain their accountable block grant. The extra incentive of the grant is making it possible for managers to direct some agency focus to revise their comprehensive goals and objectives while providing for local based project development.

■ **Round Goby Expands its Range in Chicago Area Waterways**

LaCrosse Fishery Resource Office

A series of waterways in metropolitan Chicago connect the Great Lakes and Mississippi River drainage basins. These shipping channels facilitated the spread of the infamous zebra mussel, an exotic nuisance species, to several environmentally sensitive portions of interior North America earlier this decade. Now there is concern that the round goby, a non-indigenous fish recently introduced to the Great Lakes from central Asia, may similarly expand its range to other drainage basins with adverse consequences for native fauna. The LaCrosse Fishery Resources Office of the U.S. Fish and Wildlife Service recently completed its third annual survey of the distribution of round goby in Chicago area waterways. Cooperators included representatives from four federal, three state, and two regional natural resource agencies. Round goby were captured in the Little Calumet River and the Cal Sag Channel upstream of river mile 318.6, more than 14 miles inland from their point of introduction in southern Lake Michigan. Round goby were not captured in any other portions of the Chicago area waterways we sampled, including sites in the Chicago River (south branch), the Chicago Sanitary and Ship Canal, and the Des Plaines River. These recent results indicate that the range of the round goby expanded more than 2 miles further downstream in Chicago area waterways during the past year. Current year class production and an abundance of favorable (i.e., rocky) habitat for round goby in the Cal Sag Channel are expected to promote its continued downstream movement during the later half of 1998. Therefore, additional periodic surveillance of round goby distribution will be needed to aid in (1) the selection of sites and (2) the preparation of a schedule for the installation of barriers designed to prevent this exotic species from expanding its range into the Illinois and Upper Mississippi Rivers. **6/98**

■ **Walleye Populations Assessed on Northern Wisconsin Lakes**

LaCrosse Fishery Resource Office

LaCrosse Fisheries Resource Office recently assisted the Great Lakes Indian Fish and Wildlife Commission and Ashland Fishery Resource Office with walleye population surveys in Northern Minnesota and Northern Wisconsin. More than 20 lakes were sampled. **4/98**

■ **Wisconsin Partnership Nets 3,800 Acres of Wetland Habitat**

Wisconsin Private Lands Office

Three biologists hired through a partnership between the U.S. Fish and Wildlife Service, Natural Resources Conservation Service and the Wisconsin Waterfowl Association have secured over 3,800 acres of restorable wetland and associated uplands in key wetland areas of Wisconsin for the Wetlands Reserve Program. The lands, located in 108 different parcels, will be restored under either 10-year or 30-year agreements, or perpetual easements. Funds are being provided by the Wetlands Reserve Program and the U.S. Fish and Wildlife Service. The biologists are formally employed by the Wisconsin Waterfowl Association, but work out of Service offices. The WWA is also administering funds for the Natural Resources Conservation Service. **7/98**